



2024

**SUPER
ANCHOR
SAFETY**

**FALL
PROTECTION
MANUAL**

English/Spanish

Vol. 2

Contents

Page:

3-4	Deluxe Harness	37-38	RS Series Anchors English
5-6	5 Point Harness	39-40	RS Series Anchors Spanish
7-8	3 D-Ring Tongue Buckle Harness	41	Formit Temporary Anchor English
9-12	Energy Absorbers	42-43	D-ShakL
13-16	2-D Lanyards	44-45	Extender Lanyard English
17-20	Value-Z Lifeline	46	Residential Anchor Specifications
21-24	Synthetic Rope Lifelines English	47	Fall Arrest Rigging Example
25-28	Synthetic Rope Lifelines Spanish	48	Fall Restraint Rigging Example
29-30	ARS Permanent Anchor English	49	Work Positioning Rigging Example
31-32	ARS Permanent Anchor Spanish	50	Anchor Fastener Specifications
33-34	Hinge-2 Temporary Anchor English		
35-36	Hinge-2 Temporary Anchor Spanish		



Sales Office 1-855-301-4575

Sales Team Contact paul@superanchor.com todd@superanchor.com
jay@superanchor.com cassie@superanchor.com



SUPER ANCHOR SAFETY®

Deluxe 3 D-Ring Tool Bag Harness Instruction/Specification manual 04-2021

ENGLISH
VERSION

!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.

Harness Models

6101 Deluxe / 6160 Ultra-Viz / 6201 3-D

Accessories

All-Pakka™ tool bags, hammer holders and grommet utility belt.

Material Specification

Webbing: Polyester 1-3/4" (45mm).

Padded Frame: SAS Tri-Lam3™.

Min. Tensile Strength: 6,000lb (27kN).

Connectors: ANSI/CSA certified.

Buckles: Quick connect.

D-Rings: Min. Strength 5,000lb (22.5kN).

Finish: Electrical Discharge Coating (EDC).

Specification of Use

One person use for personal Fall Arrest or Fall Restraint.

Max. User Wt: 340lb (154kg), including tools.

Note: SAS used in this manual=Super Anchor Safety

⊗=Inspection Points from pg.2.

Adjusting Harness for a Snug Fit

- 1) Don the harness and check for proper fit. Chest, leg and waist belt should fit with extra webbing for length adjustment.
- 2) Connect chest strap buckle and adjust the width so straps are aligned vertically (see Fig.1). The chest strap should be between 8-12" (203-304mm) below the shoulders.
- 3) Connect and adjust leg straps for a snug fit. Keep loose webbing ends stored in elastic keepers.

Length of Fall / Harness Stretch

When subjected to a free fall, the maximum harness stretch is 14.0" (355mm) and must be included when calculating the length of fall.

Warning! Failure to calculate the length of fall may result in striking a lower level or the ground below resulting in serious injury or death.

WARNING!
Failure to adjust the harness properly can result in falling out of the harness in the event of a free fall.

Connecting PPE to a Harness

Connect only to the Dorsal D-ring with ANSI or CSA certified 3,600lb (16kN) gate strength connectors or SAS approved devices (see Fig.2).

Side D-Rings: Use only for fall restraint.

WARNINGS!

- 1) **DO NOT** attach lifeline directly to the Dorsal D-ring unless reverse rigged as specified in SAS Reverse Rigging Manual.
- 2) **DO NOT** attach lifeline, lanyard, absorber or SRL directly to the harness webbing.

Energy Absorber Required

The use of an ANSI or CSA compliant energy absorber specified for the user's weight or an SRL with an internal or external braking system is required.

Service Life/Inspection Recommendations

Service life depends on frequency of use, exposure to UV, and abrasive or corrosive construction materials such as gypsum and concrete dust.

Type of Use	Inspection Frequency	Approx. Service Life
Daily use	Before each use.	△ 3-months
Moderate		△ 6 months
Light use		△ Annually

△=By a competent person.

Component Compatibility

SAS supplied PPE is ensured for "component compatibility" by following the instruction manuals for each type of equipment used. When used with components manufactured by others, compatibility must be ensured by a "Competent" person*.

*See OSHA definition.

Fig.1

Deluxe 6101
w/Hi-Viz Webbing



Annual and Daily Inspections:

Inspect all harness components prior to each use and inspect annually by a competent person. A written plan for service, maintenance, removal from service and user training should be maintained for each harness. The following inspection points may be used as a guideline to inspect for normal wear, tear and abuse. Record inspections on the "Inspection Label".

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

- ⊗ = Inspection points **ACTION REQUIRED:** =Remove =SAS Factory Repair
- ANSI-CSA and OSHA require that a harness subjected to a free fall must be removed from service immediately and disposed of in a way that prevents further use.
- 1 Has not been inspected annually.
Check inspection label for data entry.
- 2 Warning labels missing or not legible.
- 3 Fall Indicator label/s are missing or warning is visible. Figs.5,6
- 4 Webbing cut, abraded, damaged by heat or chemicals.
- 5 Webbing stitches cut or loose. Figs.2,3
- 6 Chest/Leg strap webbing end terminations are missing or stitching is damaged. Fig.3
- 7 Webbing keepers missing or damaged. May be replaced with SAS supplied elastic webbing keepers.
- 8 D-Ring is deformed, cut or evidence of pitting or extreme rusting.
- 9 D-Pad is cut, torn or webbing slots are broken. Fig.4
- 10 Buckles are missing, cut, deformed or evidence of pitting or rusting. Quick connect buckle won't lock. Fig.3

Storage/Maintenance

Hang harnesses in dry area. Never store wet. Clean only with mild detergent, soft bristle brush or compressed air. DO NOT use bleach or corrosive cleaning materials.

DO NOT expose webbing to:

- Open flame
- High heat
- Sharp edges
- Electrical hazards
- Cutting tools or grinders
- Acids, chemicals, solvents or petroleum

WARNING!
Storing wet will cause mildew, resulting in damage to webbing and stitching.



Buckle Locking Test 10
Lock buckle and pull on each side of the chest strap. The buckle must remain locked to pass.



Remove harness from service.



Fig. 5
Side D-Ring Visible.



Fig. 6
Side D-Ring stowed inside elastic keeper.



Primary Label
Date of mfg.

Model No. Specified Here

1 Product I.D.(PID) and Inspection Labels

Instruction Label
English

Instruction Label
Spanish

Inspection Label
Imported → GIG

Serial No.



SUPER ANCHOR SAFETY®

Fall Arrestor® 5pt D-Ring Harnesses

ENGLISH
VERSION

!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.

Instruction/Specification manual 04-2021

Fig.1 6069 D-Ring Harness

Harness Models

6001Series / 6069

Material Specification

Material: Polyester 1-3/4"(45mm).

Min. Tensile Strength: 6,000lb(27kN).

Connectors: ANSI/CSA certified.

Buckles: Chest strap pass-thru.

Leg Strap Pass-thru.

D-Rings: Min.Strength 5,000lb(22.5kN).

Finish: Zinc plating.

Compliance

Type A/P Fall Arrest and work positioning.

ANSI Z-359.11-14 / OSHA 1926.502 / CSA Z259.10

Adjusting Harness for a Snug Fit

- 1) Don the harness and adjust the D-ring position (see Fig.1). With the help of another person, move the back-strap webbing through the slots in the D-pad (see Fig.5) to position the D-ring 6-12"(152-304mm) below the shoulders.
- 2) Connect chest strap buckle and adjust the width so straps are aligned (see Fig.2). Adjust the height by moving the webbing through the slots in the chest strap sliders (see Fig.3). The chest strap should be about 8-12"(203-304mm) below the shoulders (see Fig.2).
- 3) Connect and adjust leg straps for a snug fit (see Figs.1-2).

Length of Fall / Harness Stretch

When subjected to a free fall, the maximum harness stretch is 14.0"(355mm) and must be included when calculating the length of fall.

Warning! Failure to calculate the length of fall may result in striking a lower level or the ground below resulting in serious injury or death.

!WARNING!

Failure to adjust the harness properly can result in falling out of the harness in the event of a free fall.

Connecting PPE to a Harness

Shown at Fig.1 is a typical rigging system for a vertical lifeline. Connect only to the Dorsal D-ring with ANSI or CSA certified 3,600lb(16kN) gate strength connectors or SAS approved devices.

!WARNINGS!

- 1) **DO NOT** attach lifeline directly to the Dorsal D-ring unless reverse rigged as specified in SAS Reverse Rigging Manual.
- 2) **DO NOT** attach lifeline, lanyard, absorber or SRL directly to the harness webbing.

Energy Absorber Required

The use of an ANSI or CSA compliant energy absorber specified for the user's weight or an SRL with an internal or external braking system is required.

Service Life/Inspection Recommendations

Service life depends on frequency of use, exposure to UV, and abrasive or corrosive construction materials such as gypsum and concrete dust.

Type of Use	Inspection Frequency	Approx. Service Life
Daily use	Before each use.	△ 3-months
Moderate		△ 6 months
Light use		△ Annually

△=By a competent person.

Component Compatibility

SAS supplied PPE is ensured for "component compatibility" by following the instruction manuals for each type of equipment used. When used with components manufactured by others, compatibility must be ensured by a "Competent" person*.

*See OSHA definition.

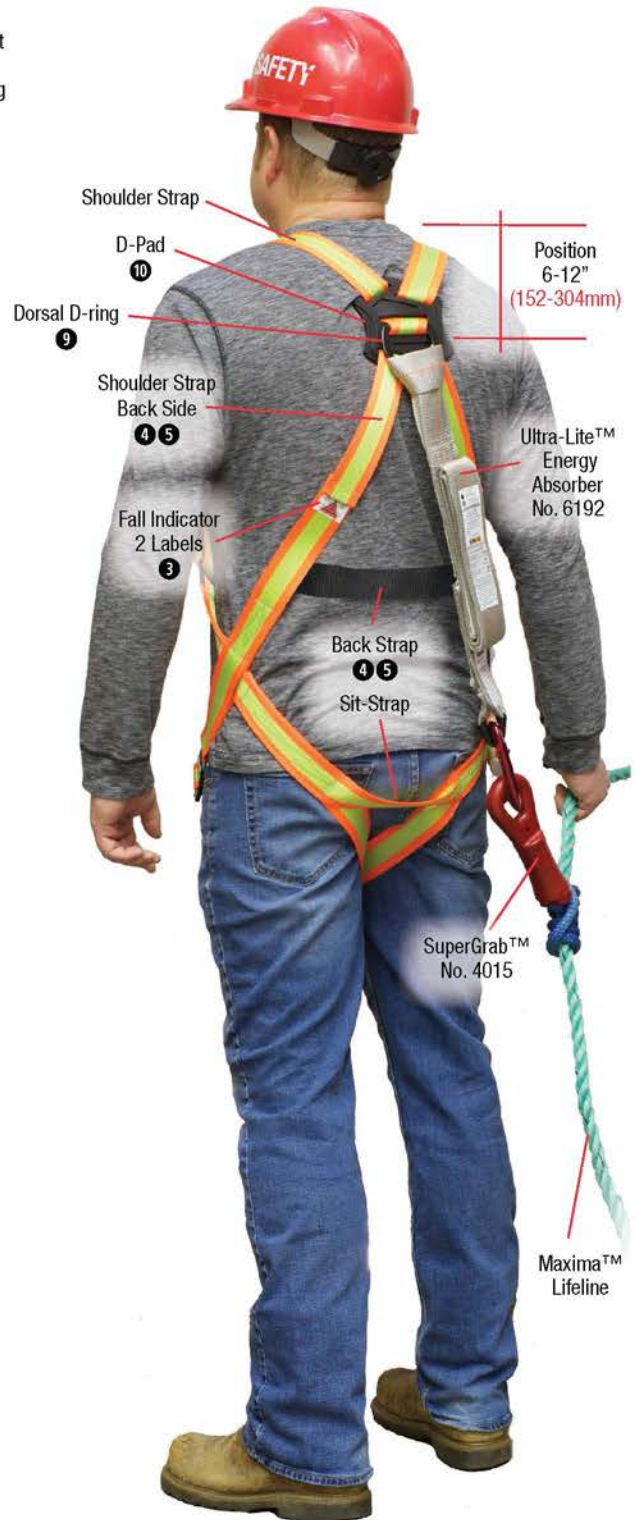
Specification of Use

One person use for personal Fall Arrest or Fall Restraint.

Max. User Wt: 340lb(154kg), including tools.

Note: SAS used in this manual =Super Anchor Safety

⊗=Inspection Points from pg.2.



Annual and Daily Inspections:

Inspect all harness components prior to each use and inspect annually by a competent person. A written plan for service, maintenance, removal from service and user training should be maintained for each harness. The following inspection points may be used as a guideline to inspect for normal wear, tear and abuse. Record inspections on the "Inspection Label".

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

- ⊗ = Inspection points **ACTION REQUIRED:** ⊗=Remove ☑=SAS Factory Repair
- ANSI-CSA and OSHA require that a harness subjected to a free fall must be removed from service immediately and disposed of in a way that prevents further use. ⊗
- 1 Has not been inspected annually. ☑
Check inspection label for data entry.
- 2 Warning labels missing or not legible. ☑
- 3 Fall Indicator label/s are missing or warning is visible. ☑ Figs.5,6
- 4 Webbing cut, abraded, damaged by heat or chemicals. ☑
- 5 Webbing stitches cut or loose. ☑ Figs.2,3
- 6 Chest strap adjuster pad is missing or webbing slots are broken. ☑ Fig.3
- 7 Chest/Leg strap webbing end terminations are missing or stitching is damaged. ☑ Fig.3
- 8 Webbing keepers missing or damaged. ☑
- 9 May be replaced with SAS supplied elastic webbing keepers.
- 9 D-ring is deformed, cut, or evidence of pitting or extreme rusting. ☑
- 10 D-Pad is cut, torn, or webbing slots are broken. ☑ Fig.4
- 11 Buckles are missing, cut, deformed or evidence of pitting or rusting. Tongue buckle grommets missing. Quick connect buckle won't lock. ☑ Fig.3

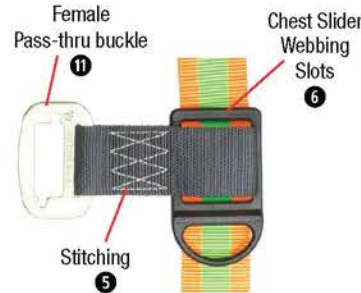
Storage/Maintenance

Hang harnesses in dry area. Never store wet. Clean only with mild detergent, soft bristle brush or compressed air. DO NOT use bleach or corrosive cleaning materials.

DO NOT expose webbing to:

- Open flame
- High heat
- Sharp edges
- Electrical hazards
- Cutting tools or grinders
- Acids, chemicals, solvents or petroleum

WARNING!
Storing wet will cause mildew, resulting in damage to webbing and stitching.



1 Product I.D.(PID) and Inspection Labels

Primary Label		Instruction Label English	Instruction Label Spanish	Inspection Label Imported → GIG
		<p>USER SHALL COMPLY WITH SAFETY STANDARDS WHEN USING THIS EQUIPMENT!</p> <p>Harness Stretch (90)= 12"(305mm) Max Free Fall: 6ft (1.8m) Anchorage Point: 5,000lb(22.5kn) or 2x fall protection load when safety standards allow Hardware: Meets: ANS/CSA.</p> <p>WARNING: Read Instruction manual. Inspect equipment before each use. Remove defective equipment from service. FALL INDICATORS: If warning is visible remove from service. Maintenance: Keep away from open flame. Do not store wet. Size Adjustment: Position D-Ring no more than 12"(305mm) from top of shoulder, adjust leg, shoulder and chest straps for a snug fit. WARNING: Improperly adjusted harness may result in serious injury or death if a fall occurs. Length of Fall: Consult manual to calculate free fall length. RESCUE: Prolonged suspension may result in death. Rescue immediately!</p> <p>Item Label C 02 English: CSCS 05-2019 Suplex 192 2412</p>	<p>¡LOS USUARIOS DEBERÁN ACATAR LAS NORMAS DE SEGURIDAD AL UTILIZAR ESTE EQUIPO!</p> <p>Estiramiento del arnés: (90)=12"(305mm) Distancia máxima de caída libre: 6 pies (1.8m) Punto de anclaje: 5,000 lbs (22.5 kn) o cuando las normas de seguridad lo permitan, 2 veces la carga a proteger en la caída. Equipos: cumplir con ANSI / CSA.</p> <p>ADVERTENCIA: Lea el manual de instrucciones. Antes de cada uso, inspeccione el equipo y realice pruebas de funcionamiento. Retire de servicio al equipo defectuoso. INDICADORES DE CAÍDAS: Si la etiqueta de advertencia es visible, retire el equipo de servicio. Mantenimiento: Manténgalo alejado de flamas abiertas. No guarde mojado. Ajuste de tamaño: Posicione el Anillo D no más abajo de 12"(305mm) desde la parte superior del hombro; ajuste la correa de las piernas, hombros y pecho para un ajuste cómodo. ADVERTENCIA: Poner mal ajustado, pueden resultar en heridas serias o muerte en caso de caída. Distancia de caída: consulte el manual para calcular la distancia de caída libre. RESCATE: La suspensión prolongada puede ocasionar la muerte. Rescatar inmediatamente!</p> <p>Item Label C 02 Spanish: CSCS 06-2019 Suplex 192 2412</p>	<p>WARNING TO USER You are required to read and use the instruction/Specifications sheet supplied at the time this device was shipped. Inspect and read instructions carefully in Spanish before use.</p> <p>¡ADVERTENCIA AL USUARIO! Usted debe leer y utilizar el Manual de Instrucciones y Especificaciones suministrado al momento de recibir este dispositivo. Inspecte cuidadosamente las instrucciones en español antes de utilizarlo.</p>



SUPER ANCHOR SAFETY®

!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.

Fall Arrestor® 3 D-Ring Harnesses w/Tongue Buckle Leg Straps Instruction/Specification manual 04-2021

ENGLISH
VERSION

Fig.1 TB-6067
3-D Harness

Harness Models

TB3-6067 / TB3-6070 / TB3-6072

Material Specification

Material: Polyester 1-3/4" (45mm).

Min. Tensile Strength: 6,000lb (27kN).

Connectors: ANSI/CSA certified.

Buckles: Chest strap quick connect.

Leg Strap: Tongue buckle.

D-Rings: Min. Strength 5,000lb (22.5kN).

Finish: Zinc or EDC w/Zinc plating.

Specification of Use

One person use for personal Fall Arrest or Fall Restraint.

Max. User Wt: 340lb (154kg), including tools.

Note: **SAS** used in this manual = Super Anchor Safety

⊗ = Inspection Points from pg.2.

Compliance

Type A/P Fall Arrest and work positioning.

ANSI Z-359.11-14 / OSHA 1926.502 / CSA Z259.10

Adjusting Harness for a Snug Fit

- 1) Don the harness and adjust the D-ring position as shown at Fig.1. With the help of another person, move the back-strap webbing through the slots in the D-pad (see Fig.5) to position the D-ring 6-12" (152-304mm) below the shoulders.
- 2) Connect chest strap buckle and adjust the width so straps are aligned (see Fig.2). Adjust the height by moving the webbing through the slots in the chest strap sliders (see Fig.3). The chest strap should be about 8-12" (203-304mm) below the shoulders (see Fig.2).
- 3) Connect and adjust leg straps for a snug fit (see Figs.1-2).

Length of Fall / Harness Stretch

When subjected to a free fall, the maximum harness stretch is 14.0" (355mm) and must be included when calculating the length of fall.

Warning! Failure to calculate the length of fall may result in striking a lower level or the ground below resulting in serious injury or death.

WARNING!

Failure to adjust the harness properly can result in falling out of the harness in the event of a free fall.

Connecting PPE to a Harness

Shown at Fig.1 is a typical rigging system for a vertical lifeline. Connect only to the Dorsal D-ring with ANSI or CSA certified 3,600lb (16kN) gate strength connectors or SAS approved devices.

Side D-Rings: Use only for fall restraint.

WARNINGS!

- 1) **DO NOT** attach lifeline directly to the Dorsal D-ring unless reverse rigged as specified in SAS Reverse Rigging Manual.
- 2) **DO NOT** attach lifeline, lanyard, absorber or SRL directly to the harness webbing.

Energy Absorber Required

The use of an ANSI or CSA compliant energy absorber specified for the user's weight or an SRL with an internal or external braking system is required.

Service Life/Inspection Recommendations

Service life depends on frequency of use, exposure to UV, and abrasive or corrosive construction materials such as gypsum and concrete dust.

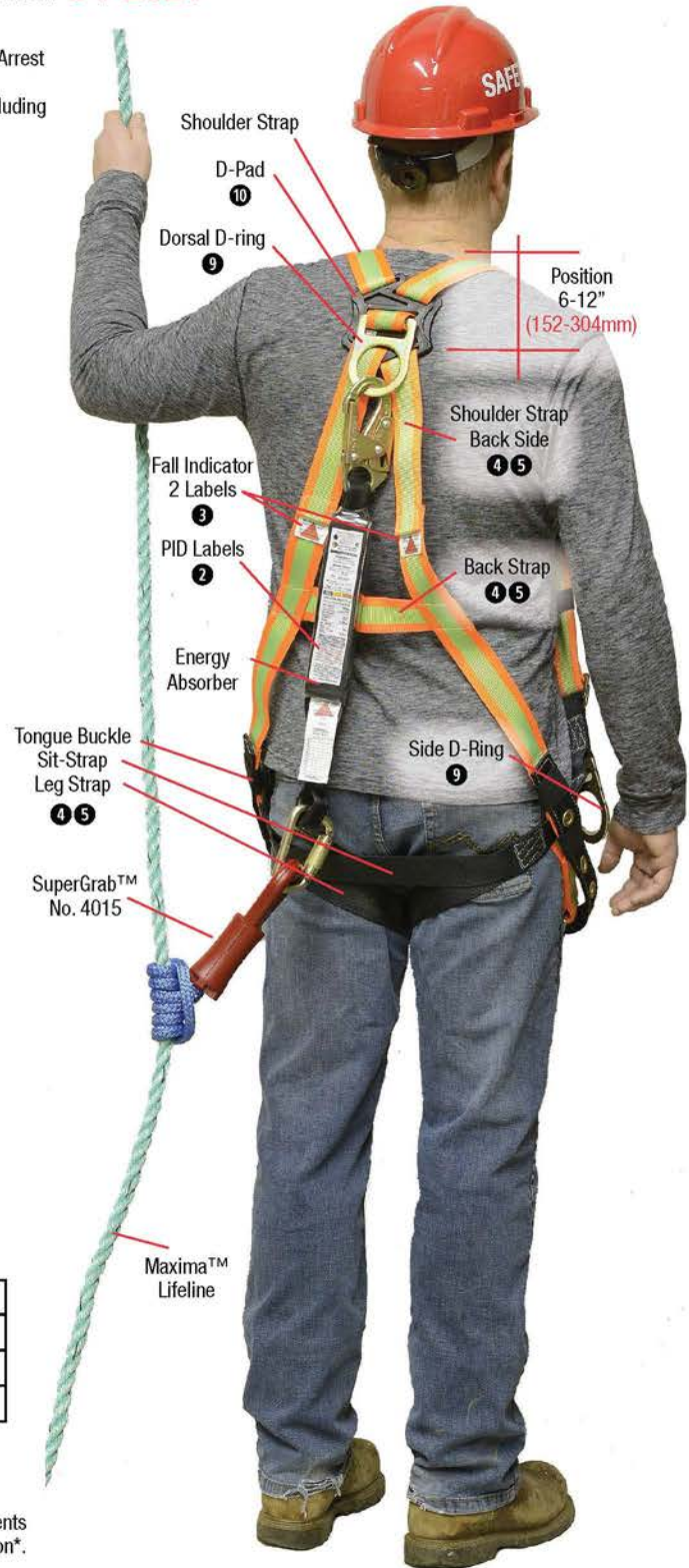
Type of Use	Inspection Frequency	Approx. Service Life
Daily use	Before each use.	△ 3-months
Moderate		△ 6 months
Light use		△ Annually

△ = By a competent person.

Component Compatibility

SAS supplied PPE is ensured for "component compatibility" by following the instruction manuals for each type of equipment used. When used with components manufactured by others, compatibility must be ensured by a "Competent" person*.

*See OSHA definition.



Annual and Daily Inspections:

Inspect all harness components prior to each use and inspect annually by a competent person. A written plan for service, maintenance, removal from service and user training should be maintained for each harness. The following inspection points may be used as a guideline to inspect for normal wear, tear and abuse. Record inspections on the "Inspection Label".

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

⊗= Inspection points **ACTION REQUIRED:** ☒=Remove ☑=SAS Factory Repair
ANSI-CSA and OSHA require that a harness subjected to a free fall must be removed from service immediately and disposed of in a way that prevents further use. ☒

- 1 Has not been inspected annually. ☒
Check inspection label for data entry.
- 2 Warning labels missing or not legible. ☒
- 3 Fall Indicator label/s are missing or warning is visible. ☒ Figs.5,6
- 4 Webbing cut, abraded, damaged by heat or chemicals. ☒
- 5 Webbing stitches cut or loose. ☒ Figs.2,3
- 6 Chest strap adjuster pad is missing or webbing slots are broken. ☒ Fig.3
- 7 Chest/Leg strap webbing end terminations are missing or stitching is damaged. ☒☑ Fig.3
- 8 Webbing keepers missing or damaged. ☒☒ May be replaced with SAS supplied elastic webbing keepers.
- 9 D-ring is deformed, cut, or evidence of pitting or extreme rusting. ☒
- 10 D-Pad is cut, torn, or webbing slots are broken. ☒ Fig.4
- 11 Buckles are missing, cut, deformed or evidence of pitting or rusting. Tongue buckle grommets missing. Quick connect buckle won't lock. ☒ Fig.3

Storage/Maintenance

Hang harnesses in dry area. Never store wet. Clean only with mild detergent, soft bristle brush or compressed air. DO NOT use bleach or corrosive cleaning materials.

DO NOT expose webbing to:

- Open flame
- High heat
- Sharp edges
- Electrical hazards
- Cutting tools or grinders
- Acids, chemicals, solvents or petroleum

WARNING!
Storing wet will cause mildew, resulting in damage to webbing and stitching.



Fig.2



Fig.3



Fig.4



Fig.5

Fig.6

Product I.D.(PID) and Inspection Labels

<p>Primary Label Date of mfg.</p> <p>Model No. Specified Here</p>	<p>Instruction Label English</p> <p>USER SHALL COMPLY WITH SAFETY STANDARDS WHEN USING THIS EQUIPMENT!</p> <p>Harness Stretch (x3): 12"(304mm) Max Free Fall (ft) (m): 2(0.61) Anchorage Point: 5,000lb(225kg) or 2x fall protection load when safety standards allow. Hardware: Meets: ANSI/CSA.</p> <p>WARNING: Read instruction manual. Inspect equipment and perform function tests before each use. Remove defective equipment from service. FALL INDICATORS: If warning is visible remove from service. Maintenance: Keep away from open flame. Do not store wet. Size Adjustment: Position D-Ring no lower than 12"(304mm) from top of shoulder, adjust leg, shoulder and chest straps for a snug fit. WARNING: Improperly adjusted harness may result in serious injury or death if a fall occurs. Length of Fall: Consult manual to calculate free fall length. RESOLVE: Prolonged suspension may result in death. Rescue immediately!</p> <p>Item Label C/EN/English OSCR 06-2019 Tamaño: 1x2 (2x3)</p>	<p>Instruction Label Spanish</p> <p>¡LOS USUARIOS DEBERÁN ACATAR LAS NORMAS DE SEGURIDAD AL UTILIZAR ESTE EQUIPO!</p> <p>Estiramiento del arnés: (x3)=12"(304mm) Distancia máxima de caída libre: 2 pies (0.61 m) Punto de anclaje: 5 000 lbs (225 kg) o cuando las normas de seguridad lo permitan, 2 veces la carga a proteger en la caída. Equipos: cumplen con ANSI / CSA.</p> <p>ADVERTENCIA: Lea el manual de instrucciones. Antes de cada uso, inspeccione el equipo y realice pruebas de funcionamiento. Retire de servicio al equipo está defectuoso. INDICADORES DE CAÍDA: Si la etiqueta de advertencia es visible, retire el equipo de servicio. Mantenimiento: Manténgalo alejado de flamas abiertas. No guardarlo mojado. Ajuste de tamaño: Posicione el Anillo-D no más abajo de 12"(304mm) desde la parte superior del hombro, ajuste las correas de las piernas, hombros y pecho para un ajuste cómodo. ADVERTENCIA: Arneses mal ajustados pueden resultar en heridas, lesiones o muerte en caso de caída. Distancia de caída: consulte el manual para calcular la distancia de caída libre. RESOLUCIÓN: La suspensión prolongada puede ocasionar la muerte. (Rescatar inmediatamente).</p> <p>Item Label C/2E/Spanish OSCR 06-2019 Tamaño: 1x2 (2x3)</p>	<p>Inspection Label 1</p> <p>Serial No. _____</p> <p>Date of Test: _____</p> <p>Inspection</p> <table border="1"> <thead> <tr> <th>MM</th> <th>YY</th> <th>By</th> <th>Pass</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <p>WARNING TO USER: You are required to read and use the instruction/Specifications manual supplied at the time this device was shipped. Improper use and installation can result in serious injury or death.</p> <p>MADE IN CANADA / VOUS DEVEZ LIRE ET UTILISER LE MANUEL D'INSTRUCTIONS/ESPECIFICATIONS FOURNIES AVEC LE LIENVOUS DO LIRE ET UTILISER LE MANUEL D'INSTRUCTIONS/ESPECIFICATIONS FOURNIES AVEC LE LIENVOUS DO LIRE ET UTILISER LE MANUEL D'INSTRUCTIONS/ESPECIFICATIONS FOURNIES AVEC LE LIEN</p>	MM	YY	By	Pass																																
MM	YY	By	Pass																																				



SUPER ANCHOR SAFETY®

SAS-Max-Force™ Energy Absorbers (E/A's) Instruction/Specification Manual 07-2021

ENGLISH
VERSION

!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 Specifications

- Tear webbing: Polyester
- Cover/Backer: Polyester
- Min. Tensile Strength: 5,000lb
- Carabiners: Aluminum Auto-twist lock
- ⊗ Inspection points

Absorber Compliance:

ANSI-Z359.13 / CSA Z259.11-17/ OSHA 1926.502

Connector Compliance:

ANSI-Z359.12-2009 CSA-Z259.12-11

Snaphooks/Carabiner Gate Strength:
3,600lb(16kN)

Function: When a fall occurs, the absorber tear webbing will deploy and gradually reduce the fall velocity to a complete stop (fall arrest). The backer/cover webbing limits the deployment length as specified in **Table 1.0**. **WARNING! Not using absorbers as specified in this manual can result in serious injury or death when subjected to a fall.** Note: Backer webbing color may vary from examples shown.

Specification of Use

Fall Arrest or Work Positioning for one person only (maximum body weight as specified in **Table 1.0**, including tools and equipment). Use with **PPE** (personal protective equipment) mfg. by **SAS** (Super Anchor Safety) or other PPE ensured for compatibility by a qualified or competent person. **Maximum free fall 6ft(1.8m).**

Absorber "A" end Attachment to PPE

Attach absorber "A" end snaphook or carabiner to a full body harness dorsal D-ring only. Loop end models are required to be connected with a locking type carabiner only. See **Fig.3**.

Absorber "B" end Attachment to PPE

"B" ends are specified for attachment to rope grabs, fall arresters, lanyards and self-retracting lifelines (SRL's). **Loop Ends** are fitted with PVC or web wear pads and are compatible with **SAS** snaphooks or carabiners. **DO NOT connect absorbers to a side D-ring or body belt for work positioning.** Static loads may cause minor deployment.

PPE Connectors Supplied by User: Snaphooks, carabiners or other class 1 connectors attached to the "A" or "B" end must comply with current OSHA, ANSI or CSA fall protection standards and have 3,600lb gate strengths. **Two connectors should not be attached to each other unless compatibility has been ensured by a qualified or competent person.**

PPE Requirement

All personal protective equipment including full body harnesses, rope grabs, fall arresters, lifelines, lanyards and SRL's used with **SAS** energy absorbers are required to comply with current OSHA, ANSI or CSA fall protection equipment standards.

Table 1.0 Absorber Specifications

Type	Webbing Color	User Weight Range	Avg. Peak Force	Tear Webbing Deployment	Deployment Length of Fall
ANSI	Gray	130-310lb(59-140kg)	900lb(4kN)	Max.48"(1.2m)	Max. 66"(1.6m) Avg. 54"(1.4m)
CSA		135-310 (61-140kg)			
*6186-HD	Orange	200-340lb(90-154kg)	1,300lb(6kN)	Max.69"(1.75m)	

* US distribution only.

Absorber Service Lengths (SL)

E/A service lengths are measured from the "A" to "B" ends as supplied from SAS factory (shown at **Fig.2**). Users are to supply loop end connectors.

Table 1.1 E/A Specifications

ANSI	CSA	A-end	B-end	SL	wt(oz)
6180	6180-Z	Snaphook	Loop	23"	21
6181	6181-Z		Snaphook	28"	38
6182	6182-Z		D-ring	26"	30
6183/C*	6183/ZC*	Carabiner	Loop	23"	13
6184/C*	6184/ZC*		D-ring	26"	19
6186	N/A	Snaphook	D-ring	26"	33
6185	N/A	Loop	Loop	18"	8
6188	6188-Z	△Dielectric	SH+D-ring	26"	28

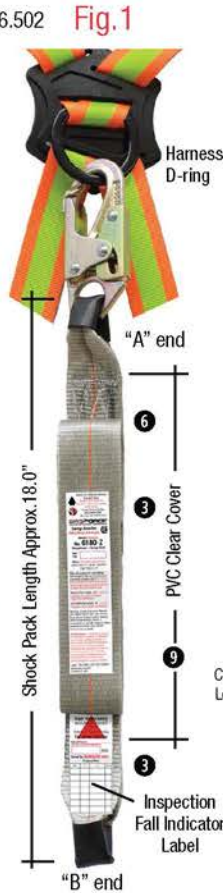
*Captive carabiner factory attached. N/A=USA distribution only.
Note: Loop ends require user to supply connector.

△ Dielectric connectors have a min. 9kV dielectric resistance

ANSI versus CSA Model Types

ANSI E/A's have a wider user wt. range and lower production costs. CSA E/A's are specified for use in Canada, display the CSA logo and printed English/French.

- WARNING HAZARD EXPOSURE! DO NOT CONTACT EQUIPMENT WITH:**
- Sharp, abrasive edges or cutting tools.
 - Electrical sources or power lines.
 - Open flame, high heat or hot asphalt.
 - Solvents, caulking, paint or stains.
 - DO NOT use for animal tether.

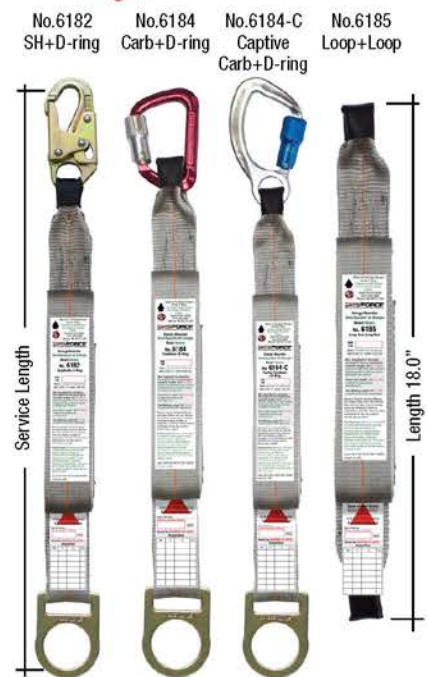


Note: Not all E/A models are shown in this manual. See Table 1.1, 1.2 and 1.3 for specific model types.

Fig.2 Standard Model E/A's



Fig.3 Standard Model E/A's



Fall Arresters/Integral Adjusters (Rope Grabs)

Fall Arresters and Integral Adjusters have a single direction locking function and must be installed onto the lifeline in the correct direction or they will not lock up in the event of a fall. A direction arrow → on the device must point toward the lifeline anchorage point as shown at Figs. 5, 6a and 10c. **Service Range:** use on flat surfaces or overhead.

ADP Type Fall Arresters (FA's) No.4015C/Z can be removed from the lifeline as shown at Fig.10c and have a panic grab function that prevents accidental disengagement by the user in the event of a fall. **Integral Adjusters (IA's) No.4015M** are captive to the lifeline and not removable. See **Table 2.0** for performance specifications.

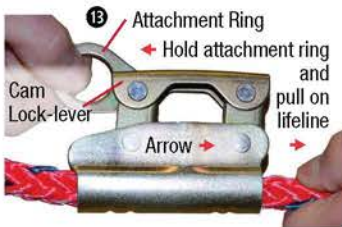
Lifeline Specifications

FA's and IA's are specified for use with SAS mfg. 5/8" (16mm) diam. lifelines. See **Table 2.0**. Component compatibility must be ensured by a qualified or competent person when using other mfg. lifelines.

Integral Adjuster (IA) 4015M Function Tests

Dual spring loaded cam-locks produce constant pressure on the lifeline that requires manual adjustment to move position. Mobility is achieved by pushing or pulling the IA up or down the lifeline. Hold the cam-lock lever down to release pressure as shown at Fig.6b. **DO NOT use on X-Lines.**

Fig.6a Cam-Lock Test



No movement = Pass ✓
Any movement = Fail ✗

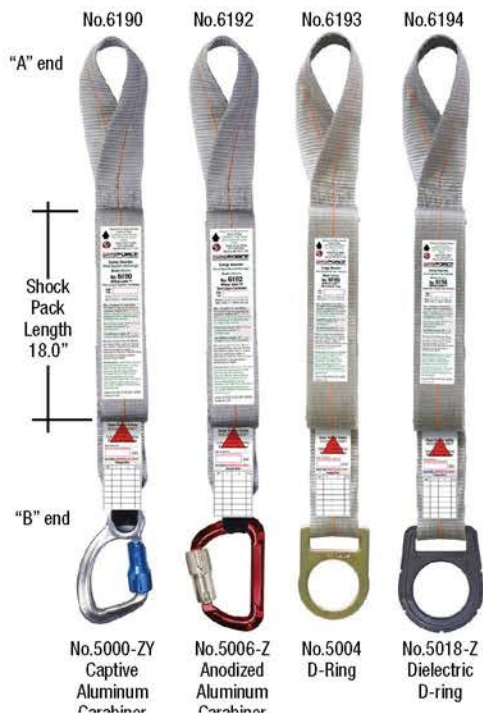
Fig.6b Mobility Test



Moves easily = Pass ✓
Release Cam-Lock lever. Any movement = Fail ✗
Lever Snaps back closed = Pass ✓
Lever does not close = Fail ✗

Fig.7 Ultra-Lite™ Dee-Loop E/A's

Attach Dee-Loop "A" end to the dorsal D-ring of a full body harness as shown at Figs. 7a, 7b and 7c. Dee-Loops are designed for captive installation when removal of the absorber is not required. Follow instructions for inspection.



Dee-Loop Attachment

Fig.7a

Feed Dee-Loop thru harness D-ring



Fig.7b

Slide E/A Shock Pack thru Dee-Loop



Fig.7c

Cinch Tightly



Table 2.0 SAS mfg. Lifeline Specifications

Model	Type	△ 4015C/Z	4015M	▲ Deceleration
Maxima	3 strand	Yes	Yes	24"
Poly-dac	3 strand			
Duraplex	12 strand			
X-Line	12 strand		No	

△ 4015C=Stainless Steel. 4015Z=Zinc Plated Steel

▲ The distance required for the device to arrest a fall.

Fig.4 Energy Absorbers w/FA's and IA's

No.6195-C
No.6195-Z

Ultra-Lite
No.6191-C
No.6191-Z

No.3004

Fig.5 IA/FA Installation onto Lifelines



Fall Arresters

Integral Adjuster
No.4015M

Table 1.2 E/A Models w/Rope Grabs

ANSI	CSA	A-end	B-end	SL	wt(oz)
6195-C	N/A	Snaphook	FA 4015-C	23"	43
6195-Z	N/A	Snaphook	FA 4015-Z	23"	43
6196-C	N/A	Carabiner	FA 4015-C	23"	35
6196-CC	N/A	*Carabiner	FA 4015-C	23"	35
6196-Z	N/A	Carabiner	FA 4015-Z	23"	35
6196-ZC	N/A	*Carabiner	FA 4015-Z	23"	35
6196-M	N/A	Carabiner	FA 4015-M	23"	35
6196-M C	N/A	*Carabiner	FA 4015-M	23"	35

*Captive carabiner factory attached. N/A=USA distribution only.

Table 1.3 Ultra-Lite E/A Specifications

ANSI	CSA	A-end	B-end	SL	wt(oz)
6190	6190-Z	Dee-Loop	*Carabiner	29"	23
6191-C	N/A	Dee-Loop	FA 4015-C	24"	34
6191-Z	N/A	Dee-Loop	FA 4015-Z	24"	34
6192	6192-Z	Dee-Loop	Carabiner	29"	23
6193	6193-Z	Dee-Loop	D-Ring	27"	18
6194	6194-Z	Dee-Loop	△Die-D-Ring	27"	19

*Captive carabiner factory attached. N/A=USA distribution only.

Note: Z models= zinc plated. C models=stainless steel

△ Dielectric connectors have a min. 0kV dielectric resistance

Snaphooks/Carabiner Function Tests

Lock gates are designed to remain closed during use. Perform **Table 3.0** function tests before each use.

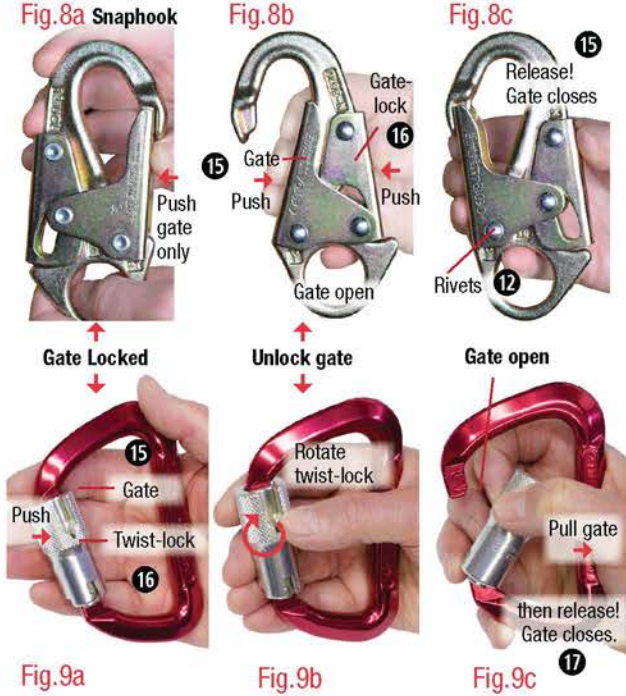


Table 3.0 Remove from service if any test fails.

Fig.	Test Type	Function	Pass <input checked="" type="checkbox"/>	Fail <input checked="" type="checkbox"/>
8a-9a	Gate-lock	Push against gate only	Won't open	Opens
8b	Gate-open	Push gate-lock and gate at the same time	Opens	Won't open
8c	Gate-close	Release gate and gate-lock at same time	Snaps shut	Won't close and lock
9b-9c	Unlock gate	Rotate twist-lock	Gate opens	Won't open
9a	Gate closes	Release twist-lock	Snaps shut	Won't close

Absorber Storage/Maintenance/Service Life

Store in a clean dry area. DO NOT expose to cleaning agents or chemicals. DO NOT repair or modify absorbers in any way. **WARNING!** Synthetic fibers are damaged by mildew, extreme temperatures, extended exposure to UV, water submergence and vermin. **Service Life:** determined by frequency of use, environmental conditions and normal wear. It is recommended to replace equipment after 3-5 years of service. **Disposal of Equipment:** PPE removed from service must be disposed of in a way that will prevent further use.

Inspect Components Before Each Use!

Inspect and perform function tests for all components prior to each use. Inspection points, black circles (X) are intended as guidelines only. Employers/PPE equipment owners are required to draft their own inspection outline. SAS requires annual inspections by a competent person with the date entered on the absorber inspection label. See Fig.12.

△ Greater frequency of inspections may be specified by the equipment owner.

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

(X) = Inspection points ACTION REQUIRED: (X)=Remove (✓)=Repair

- 1 Subjected to a free fall or other force.
- 2 Obvious damage to any component.
- 3 Warning labels missing or not legible.
- 4 No annual inspection.
- 5 Fails inspection/function tests.
- 6 Webbing/Stitches cut or abraded.

Energy Absorber

- 7 Fall indicator Label is visible or missing. (X)
- 8 Tear webbing is deployed. (X)
- 9 Absorber clear cover is missing or damaged. (X)
- 10 Wear pads are missing or worn through to backer webbing. (X)

Fall Arresters/Integral Adjusters

- 11 Arrow position is upside down. (✓)
- 12 Body or Locking Cam bent, twisted or missing rivets. (X)
- 13 Won't hold static position on lifeline. (X)
- 14 Grab is locked onto lifeline or won't move position easily. Clean lifeline and retest. If no change: (X)

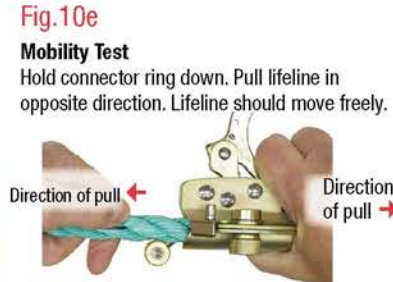
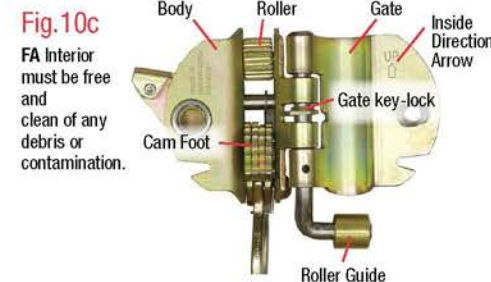
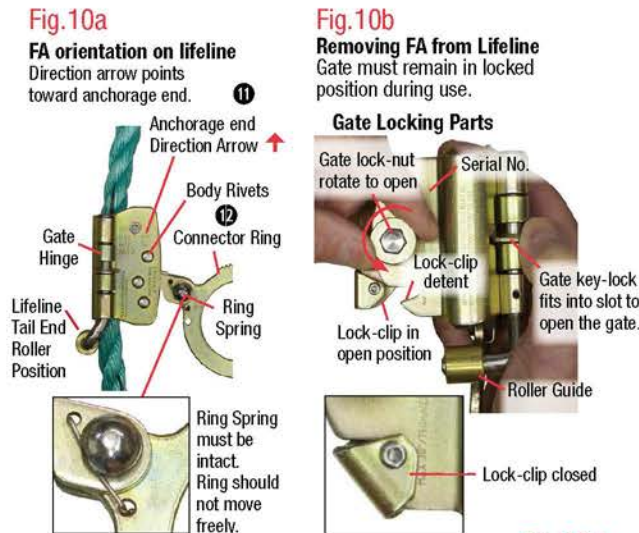
Snaphook/Carabiner/D-ring

- 15 Gate is bent or won't close. (X)
- 16 Gate locking device is damaged. (X)
- 17 Carabiner won't lock or close. (X)
- 18 D-ring is bent, cut, gouged or cracked. (X)

Zinc plated connectors corrode easily when exposed to salt air and do not require removal from service provided they pass inspections. Severe corrosion should be inspected by a competent person to determine if removal from service is required.

Fall Arrester Function Tests

The locking cam is activated when force is applied to the connector ring. Move position by pulling or pushing the FA up or down on the lifeline.





SUPER ANCHOR SAFETY®

2D- Lanyard

Instruction/Specification Manual 2022

ENGLISH
VERSION

!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.

Lanyard Specification
3/16" (4.7mm) 7x19 Galv. Wire
Min. Tensile: 4,200lb (19kN)

Compliance: ANSI Z359.1-07
OSHA 1926.502
Swage: Aluminum duplex
Min. strength: 4,000lb (18kN)
SAS = Super Anchor Safety

Max User Wt: 340lb (154kg)
Connector Compliance
ANSI-Z359.12-09 / CSA-Z259.12-11
3,600lb (16kN) gate strength

Specification of Use

The 2D-Lanyard is specified for use as a Fall Restraint or Work Positioning device only. Do not use for Fall Arrest, vertical suspension or window washing. Use of this device requires the rigging of a compatible component system that guards the worker from free fall hazards.

Personal Protective Equipment (PPE)

OSHA, ANSI or CSA compliant fall protection equipment including a Full Body Harness (FBH) is required for use with the 2D-Lanyard. PPE mfg. by others must be ensured for compatibility by a qualified or competent person. Component compatibility is ensured using PPE equipment mfg. by **SAS**. Rigging example Fig.5.

- Any side D-ring FBH supplied by **SAS**
- Any **SAS** model lifeline or SRL
- 4015 SuperGrab™
- 4015-V ValueGrab™
- 4015-M Integral Rope Grab
- 4015-C ADP Fall Arrestor
- 4015-Z ADP Fall Arrestor



Rescue Lanyard

Model 6515-C and 6515-SH are specified for rescue when used with **SAS** front D-ring harness No. FD-6071. Consult harness manual.

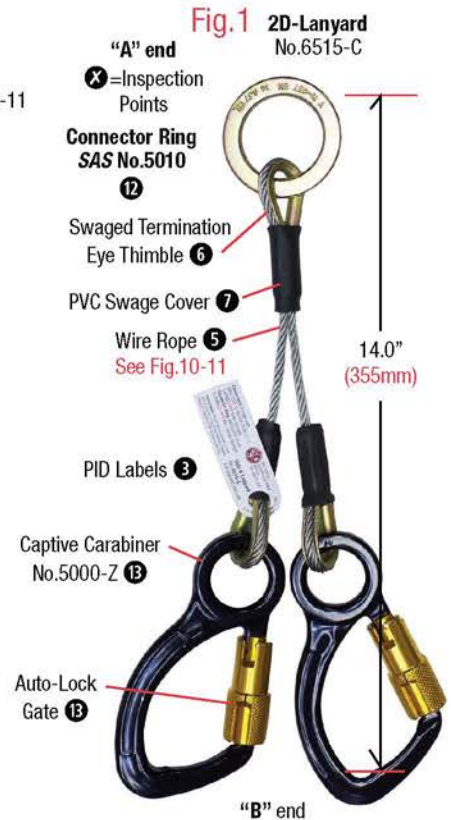


Table 1:

Lanyard No.	Connector No.	Type	Wt.	Fig.
6515-C	SAS No. 5000-Z	Captive Auto-lock Aluminum carabiner	17oz	1
6515-CA	SAS No. 5006-Z	Auto-Lock Aluminum Carabiner	17oz	3
6515-CS	SAS No. 5001-Z	Auto-Lock Steel Carabiner	25oz	3
6515-SH	SAS No. 5005-Z	Double Locking Steel Snaphook	33oz	4
6515 DLX	SAS No. 5006-Z	Deluxe 2D-Lanyard w/SuperGrab™	33oz	6

Attachment Instructions: Connect the "B" ends of the lanyard to the side D-ring of a full body harness as shown at Fig.5.

Fig. 5 SAS Rigging System



FREE FALL HAZARD WARNING!

Serious injury or death can result if you free fall while attached to the side D-rings of your harness. Always maintain a safe distance from leading edges, gable edges, and openings in the work surface. Users should be trained by a qualified or competent person before using this device.

Fig. 7 PID Labels

Connector: Comply with ANSI Z359.12-09/CSA Z259.12-11 3600lb (16kN) Gate Strength
Connector Ring: ANSI Z359.12-09 5,000lb (22.5kN) Min. Tensile Strength

Instructions: Attach connectors to side D-rings on a Full Body Harness. Connect lanyard, Lifeline or SRL to connector ring.

!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.
Inspection: Connectors and wire rope for cuts and deformation. Perform connector function tests prior to each use. Remove From Service: If evidence of damage.

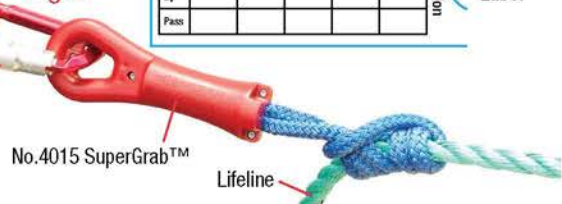
Made in USA by Super Anchor Safety Morrow, WA 98272 USA

2D-Lanyard No. 6515-C

Material: 3/16" 7x19 Galv Wire Rope
Min. Tensile Strength 4200lb
Max. User Wt: 340lb (154kg)
Use for Fall Restraint or Work Positioning only
DO NOT USE FOR FALL ARREST.

MM					Inspection Label
YY					
By					
Pass					

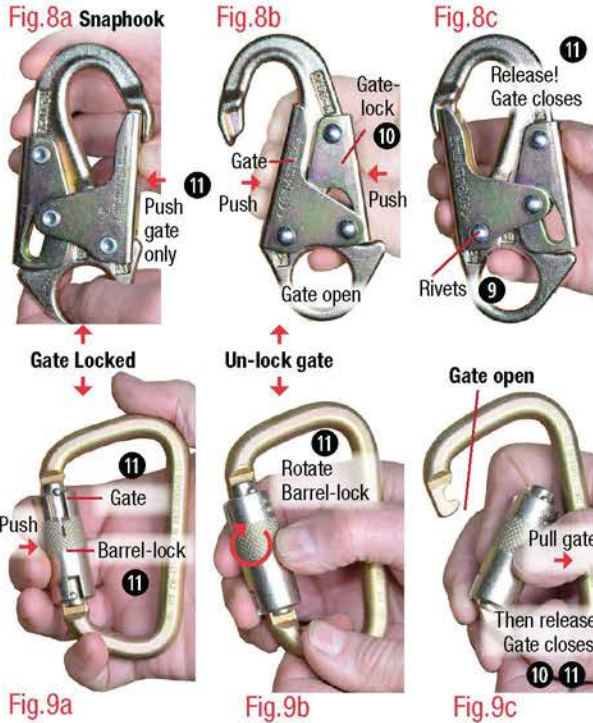
Fig. 6



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 qualified or 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.

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



All SAS Model Auto-Lock Carabiners

SuperGrab™ Specifications/Instructions For 2D-Lanyard Deluxe Kit No. 6515-DLX

SuperGrab™ No.4015
Rope: 7/16" (11mm) Blue Nylon/Poly
Avg. Tensile: 7,400lb (34kN)
Strength Rating: 5,000lb (23kN)
Use For: 5/8" (16mm) diam. rope.
Super Grab Cover: Red PVC
Compliance: OSHA 1926.502
 U.S. Dept Labor letter 03/20/95.
 Certified by a member of l'Ordre
 des ingénieurs du Québec.
 Meets Safety Code for use in Québec.

Specification of Use
 Single person max. user wt. 340lb (154kg) including tools and equipment. Bi-directional locking function. PVC cover provides a visual fall indicator. If subjected to a free fall or other force the cover will fracture. Compatible with all SAS synthetic lifelines.
Inspection: Prior to each use inspect for missing fasteners, rope abrasion and PVC cover for damage.
Instructions: Follow instructions for the SAS lifeline system you are using. For other mfg., compatibility must be ensured by a qualified or competent person.



WARNING! Swage covers provide protection from puncture injuries that can be caused from wire rope terminations. Fig.10



Storage/Maintenance/Service Life

Galvanized wire rope and connectors are subject to oxidation when exposed to moisture and salt air for prolonged periods. Always store in a warm, dry area. Clean the lanyard with low-pressure air or water. DO NOT USE any type of acid, chemicals or corrosive cleaning agents. Service life is based on frequency of use, environmental conditions and normal wear and tear.

Service life begins at time of first use.

Function Tests

Test Snaphooks and Carabiners 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"/>
8a-9a	Gate-lock	Push against gate only	Won't open	Opens
8b	Gate-open	Push gate-lock and gate at the same time	Opens	Gate won't open
8c	Gate-close	Release gate and gate-lock at same time	Snaps shut	Won't close and lock
9b-9c	Un-lock gate	Rotate barrel lock	Gate opens	Won't open
9a	Gate closes	Release gate/barrel	Snaps shut	Won't close

Remove equipment from service if any of the following conditions are present and dispose of in a way that prevents further use.

X=Inspection Points **ACTION REQUIRED:** =Remove.

- 1 Subjected to a free fall or other force.
- 2 Obvious damage to any component.
- 3 If warning labels are missing or not legible, maintain a copy of this manual in the user's inspection file.
- 4 Has not been inspected annually.
- 8 Connector/s are missing.
- 9 Obvious damaged/missing rivets.
- 10 Gate locking device is damaged.
- 11 Gate won't open or close.
- 12 Connector ring is bent, cut or deformed.
- 13 Fails function tests.

Wire Rope

- 5 Strands are cut or hooked. Fig.11
- 6 Thimble missing, broken, deformed.
- 7 Swage damaged, cracked or loose.
- 7 PVC swage cover is missing. Remove from service at users discretion

SuperGrab™ No.4015

- 14 PVC cover is missing, cracked or cover screws are missing.
- 15 Grab knot has fewer than 6 wraps. Re-tie grab knot. See Fig.12
- 16 Won't hold position on lifeline when a force is applied.
- 17 Locked onto lifeline or won't move position easily. Loosen grab knots to restore mobility. If no change.



SUPER ANCHOR SAFETY®

Acollador-2D de Posicionamiento de Trabajo

Manual de Instrucción/Especificación 2017 **SPANISH VERSION**

¡ADVERTENCIA AL USUARIO!
Se requiere leer y utilizar el Manual de Instrucción/Especificación proveído en el momento de envío de este aparato. El uso e instalación no apropiados puede resultar en lesiones serias o la muerte. Seguir los requisitos de inspección antes de cada uso.

Especificación del Acollador
3/16" (4.7mm) 7x19 Alambre Galvanizado
Tracción Mínima: 4,200lb (19kN)

Cumplimiento: ANSI Z359.1-07
OSHA 1926:502
Estampado: Aluminio duplex
Min. strength: 4,000lb (18kN)

Peso Máximo del Usuario: 340lb (154kg)
Cumplimiento del Conector
ANSI-Z359.12-09 CSA-Z259.12-11
3,600lb (16kN) Fuerza de Compuerta

Especificación de Uso

El Acollador-2D es especificado para uso como un aparato de Restricción de Caída o Posicionamiento de Trabajo solamente. No utilizar para Detención de Caída, suspensión vertical, lavado de ventana o rescate. El uso de este aparato requiere aparejar con un sistema de componente compatible que proteja al trabajador de los peligros de caída libre.

Equipo de Protección Personal (PPE)

Equipo de Protección Personal cumpliendo con OSHA, ANSI o CSA incluyendo un Arnés de Cuerpo Completo (FBH, siglas en Ingles) se requiere para utilizarse con el Acollador-2D. E PPE fabricado por otros debe ser asegurado para su compatibilidad por una persona calificada o competente. La compatibilidad de componente es asegurada utilizando un equipo PPE fabricado por Super Anchor Safety (SAS) como se especifica debajo y conectores en **Tabla 1**. Ejemplo de aparejo **Fig.6**.

- Deluxe, Ultra-Viz, 3-D, 6067K o FBH con (anillo) D-ring del otro lado fabricado por SAS
- 4015 Super Grab (Agarrador)
- 4015-C Detenedor de Caída ADP
- 4015-V Value Grab (Agarrador)
- 4015-Z Detenedor de Caída ADP
- Cualquier modelo de cuerda salvavidas SAS o SRL
- 4015-M Agarrador de Cuerda Integral
- Cualquier acollador de conexión SAS



Fig.2

Sistema de Aparejo SAS



¡ADVERTENCIA DE PELIGRO DE CAIDA LIBRE!

Lesiones serias o muerte puede resultar de caída libre mientras sujetado a los anillos (D-rings) laterales del arnés. Mantener siempre una distancia segura de bordes delanteros, bordes gabletes, y aberturas en la superficie de trabajo. Los usuarios deben ser entrenados por una persona calificada o competente antes de utilizar este aparato.

Extremo "A"
⊗=Puntos de Inspección



Fig.1

Acollador-2D

Table 1:

Acollador No.	Conector No.	Tipo	Peso	Fig.
6515	▲ Suministros de Usuario		9oz	2
6515-C	SAS No. 5002Z	Mosquetón de Aluminio Cautivo Auto-bloqueo	17oz	1
6515-CA	SAS No. 5006Z	Mosquetón de Aluminio Auto-bloqueo	17oz	3
6515-CS	SAS No. 5001Z	Mosquetón de Acero Auto-bloqueo	25oz	4
6515-SH	SAS No. 5005Z	Gancho de Seguridad de Acero con Doble Bloqueo	33oz	5
6515 DLX	SAS No. 5006Z	Acollador-2D Deluxe con Agarrador Super Grab	33oz	7

Instrucciones para Sujetar: Conectar los extremos "B" del acollador al (anillo) D-ring lateral de un arnés de cuerpo completo como se muestra en la **Fig.6**. ▲ Sujetar el anillo conector al dispositivo agarrador de cuerda con un Mosquetón tipo bloqueador o un Gancho de Seguridad que sea certificado para 3,600lb (16kN) de fuerza de compuerta.

Etiquetas PID

Connectors: Comply with ANSI Z359.12-09 CSA Z259.12-11 3,600lb (16kN) Gate Strength.
Connector Ring: ANSI Z359.12-09 5,000lb (22.5kN) Min. Tensile Strength.

Instructions: Attach one connector to one side D-ring on a Full Body Harness. Connect lanyard, Lifeline or SRL to connector ring.

Mfg. USA by Super Anchor Safety Monroe Wa. 98272 USA

Side-D Lanyard No. 6515-CS
Fall restraint Use only.

Etiqueta Principal: No. de parte del Acollador
Etiqueta Auxiliar: Advertencia/Especificaciones

WARNING TO USER:
You are required to read and use the Instruction/Specification manual at the time this device was shipped. Improper use and installation can result in serious injury or death.
Inspection: Connectors and wire rope for cuts and deformation. Perform connector function tests prior to each use. **Remove From Service:** if evidence of damage.

Material:
3/16" 7x19 Galv Wire Rope
Min. Tensile Strength 4,200lb
Max. User Wt. 340lb (154kg)
Work Positioning Use Only
DO NOT USE FOR FALL ARREST.

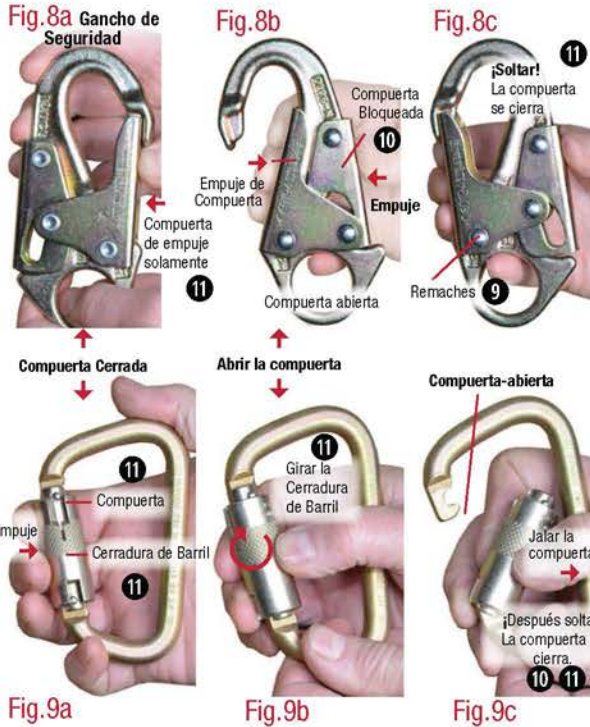
Fig.7

Agarrador Super Grab No. 4015
Cuerda Salvavidas

¡Inspeccionar Antes de Cada Uso!

Antes de cada uso, inspeccionar el acollador y realizar las pruebas de función para los conectores. Inspecciones anuales deben ser realizadas por lo menos una vez al año por una persona calificada o competente y registradas en las etiquetas matriculas de todo el equipo. Debe mantenerse un registro de inspecciones, reparaciones, y eliminaciones de servicio de todo el equipo. Los siguientes puntos de inspección son guía de condiciones comunes que ocurren como resultado de abuso, mal mantenimiento o larga vida de servicio.

Conectores: Las compuertas están diseñadas para mantenerse cerradas durante el uso y están equipadas con bloqueadores de compuerta para prevenir retiro accidental.



Todos los modelos de Mosquetones con Auto-Bloqueo de SAS

Especificaciones/Instrucciones del Agarrador Super Grab™ Para el Acollador-2D Deluxe Equipo No. 6515-DLX

Super Grab No. 4015

Patente EE.UU 6,712,181 B2
Cuerda: 7/16" (11mm) Azul Nailon/Poliéster
Fuerza de Tracción Promedio: 7,400lb(34kN)
Clasificación de Fuerza: 5,000lb(23kN)
Utilizar Para: 5/8" (16mm) diámetro de cuerda.
Cubierta del Agarrador Super Grab: PVC Rojo
Cumplimiento: OSHA 1926:502
Carta del Departamento de Trabajo de EE.UU 03/20/95.
Certificado por un miembro de l'Ordre des ingénieurs du Québec.
Cumple con el Código de Seguridad para uso en Québec.

Especificación de Uso

Una sola persona con peso máximo de usuario de 340lb(154kg) incluyendo herramientas y equipo. Función de bloqueo bidireccional. La cubierta PVC provee indicador de caída visual. Si es sujeto a una caída libre u otra fuerza la cubierta se romperá. Compatible con todas las cuerdas salvavidas sintéticos de SAS.
Inspección: Antes de cada uso hay que inspeccionar si faltan cierres, si hay abrasión en la cuerda y daño en la cubierta PVC.
Instrucciones: Seguir instrucciones para el sistema de la cuerda salvavidas de SAS que se está utilizando. Para otro fabricante, la compatibilidad debe ser asegurada por una persona calificada o competente.



Almacenamiento/Mantenimiento/Vida de Servicio

La cuerda de alambre galvanizado y conectores están sujetos a la oxidación cuando son expuestos a la humedad y aire salado por periodos prolongados. Siempre almacenar en un área tibia y seca. Limpiar el acollador con aire o agua a baja-presión. NO UTILIZAR cualquier tipo de ácido, químicos o agentes de limpieza corrosivos. La vida de servicio es basada en la frecuencia de uso, condiciones ambientales y deterioro por uso.

La vida de servicio comienza al momento del primer uso.

Pruebas de Función

Probar los Ganchos de Seguridad y Mosquetones antes de cada uso.

Remover el equipo de servicio si cualquiera de las pruebas de función falla.

Fig.	Tipo de Prueba	Función	Pasa <input checked="" type="checkbox"/>	Falla <input checked="" type="checkbox"/>
8a-9a	Compuerta-Bloqueo	Empujar contra la compuerta solamente	No se abre	Se abre
8b	Compuerta-Abrirse	Empujar el bloqueo de compuerta y la compuerta	Se abre	No se abre
8c	Compuerta-Cerrarse	Soltar la compuerta y el bloqueo de la compuerta al mismo tiempo	Se cierra de golpe	No se cierra y bloquea
9b-9-c	Abrir la Compuerta	Girar la Cerradura de Barril	Gate opens	No se abre
9a	La Compuerta se Cierra	Soltar la Compuerta/Barril	Cierra de Golpe	No Cierra

Remover el equipo de servicio si cualesquiera de las siguientes condiciones se presentan y desechar de una manera que impida más su uso.

X = Puntos de Inspección ACCION REQUERIDA: = Remover

- 1 Sujeto a una caída libre u otra fuerza.
- 2 Daño obvio a cualquier componente.
- 3 Si las etiquetas de advertencia faltan o no son legibles, mantener una copia de este manual en el archivo de inspección del usuario.
- 4 No ha sido inspeccionado anualmente.

Conectores

- 8 Los conectores faltan.
- 9 Daño obvio / faltan remaches.
- 10 El aparato de bloqueo de compuerta está dañado.
- 11 La compuerta no abre o cierra.
- 12 El anillo conector esta doblado, cortado o deformado.
- 13 Falla las pruebas de función.

Cuerda de Alambre

- 5 Las hebras están cortadas o dobladas. Fig.11
- 6 El dedal falta, está quebrado o deformado.
- 7 Estampado dañado, agrietado o suelto.
- 7 La cubierta PVC del estampado falta. Sacarlo de servicio a la discreción del usuario.
- Agarrador Super Grab
- 14 La cubierta PVC falta, esta agrietada o los tornillos de la cubierta faltan.
- 15 El nudo del agarrador tiene menos de 6 envolturas. reatar el nudo del agarrador. Ver la Fig.12
- 16 No mantiene su posición en la cuerda salvavidas cuando se aplica fuerza.
- 17 Se bloquea en la cuerda salvavidas y no se mueve de posición fácilmente. Soltar los nudos del agarrador para restaurar movilidad. Si no hay cambio:

¡ADVERTENCIA! Las cubiertas del estampado proveen protección de lastimaduras por perforación que pueden ser causadas por las terminaciones de la cuerda de alambre. Fig.10



La cubierta PVC del estampado falta. La terminación del estampado es visible.



No utilizar acolladores con rebabas, cortadas o gubias.



SUPER ANCHOR SAFETY®

Value-Z™ Vertical Lifeline

Instruction/Specification Manual 01-2022

CSA Certified for use in Canada

ENGLISH
VERSION

!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.

Lifeline Specifications

Lifeline: 3 strand 5/8" (16mm) polyolefin/polyester
Min. Tensile Strength: 9,900lb (45kN)
Max. Elongation: @1,800lb=10%
Connector: Snaphook 3,600lb (16kN) gate strength
Terminations: A-end aluminum swage B-end aluminum swage stopper
Note: Lifeline and service lengths are nominal and will vary slightly.

Specifications of Use

Personal Fall Arrest System (PFAS) including tools and equipment for one person use only.
Max. free fall: 6ft (1.8m)
Min. user wt.: 135lb (61kg) Max. G-Force: 7g
Max. user wt.: 310lb (140kg) Max. G-Force: 10g
Working Temperatures: -30°F (37°C) to 130°F (54°C)

Hazard Warnings! DO NOT come in contact with:

- Sharp or abrasive edges or cutting tools
- Electrical sources and power lines
- Open flame, high heat or hot asphalt
- Adhesives, gasoline, diesel, kerosene, solvents, acids, caulking, paint or stains
- Cleaning agents or any chemicals that are damaging to polyester or to zinc plated steel

The lower end of the lifeline shall have a termination that prevents the fall arrester from passing through the termination. When the line is installed, the bottom end shall have a counterweight to provide stiffness.

Lifeline Anchorage Specification

Connect the A-end of lifeline to a compatible anchorage device that complies with CSA Z259.15-12 or is 3rd party certified by a registered Canadian engineer. The anchorage should be capable of supporting 2x the max. arrest force of an engineered system or 5,000lb (23kN).

DO NOT wrap the lifeline around any object or loop through its snaphook or carabiner (See Fig.9d) or tie knots above the fall arrester position (See Fig.9a).

Personal Energy Absorber (E/A)

Fall Arrest: Attach the A-end of the E/A to the dorsal D-ring of a full body harness (See Figs.2,6c).

Fall Restraint: Attach to the side D-rings of the harness.

E/A Function and Performance Test

To reduce serious bodily injury in a free fall, E/As are designed to reduce deceleration forces to no more than 10g. When the fall arrester locks onto the lifeline, the E/A's tear webbing will gradually deploy (tear out) (See Fig.12a), reducing the free fall velocity to a complete stop (fall arrest). The E/A's backer webbing limits the max. deployment length to 66" (1.6m). See p. 3 PID labels and p. 4 Length of Fall sample plan.

Fall Arrester (FA) Function/Adjustment

The FA locks in one direction only and must be attached with the direction arrow pointing to the lifeline's A-end (See Figs.1,7b,9a). The FA locks onto the lifeline when a force is applied to the connector ring (See Fig.8a). Adjust the FA's position by moving it up or down on the lifeline (See Fig.8b). The FA's panic grab feature is designed to prevent accidental disengagement by the user in the event of a fall.

DO NOT remove the fall arrester from the E/A's web loop end.

Warning! In the event of a free fall the FA's locking function can be disabled when any of the following conditions occur:

- Is installed in the wrong direction
- The lifeline is grabbed above the FA's position on the lifeline (See Fig.9e)
- The FA's body is grabbed (See Fig.9f)

Energy Absorber (E/A) Specifications

Arrest Force: Avg.1,350lb (6kN) Max.1,800lb (8kN)
Max. Deployment: 66" (1.6m)
Performance Factor: Not less than 2.3
Tear/Cover Webbing: Polyester
Min. Tensile Strength: 5,000lb (23kN)
A-end Connectors: 3,600lb (16kN) gate strength
Fall Arrester: No.4015-Z factory attached to the E/A. Zinc plated w/anti-panic feature.
Max. deceleration: 39" (1m) @ 310lb (140kg)

Compliance

Lifeline: CSA Z259.2.5/OSHA 1926.502
E/A: CSA Z259.11-17
Connector Compliance: ANSI-Z359.12-2009 CSA-Z259.12-11
SAS= Super Anchor Safety
⊗ Inspection Points
* "Qualified or Competent Person" as defined by CSA, ANSI or OSHA.

Non-Specified Use/System Modification

Fall arresters should not be used to suspend workers. **DO NOT** use for horizontal lifelines, hoisting, lifting, towing, animal tether or any non-fall protection uses. **DO NOT** reduce the lifelines factory supplied length. **DO NOT** remove the end stopper.

Fig.1

Value-Z™ Lifelines
No.4025-25ZSH 25ft
No.4025-50ZSH 50ft

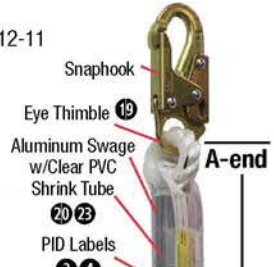


Fig.2

E/A No.6180-ZZ w/Snaphook



Fig.3

No.4025-25ZUL 25ft
No.4025-50ZUL 50ft
E/A No.6190-ZUL
Ultra-Lite™ Dee-Loop



Fig.4

No.4025-25ZC 25ft
No.4025-50ZC 50ft
E/A No.6183-ZZ w/No.5006-Z
Aluminum Carabiner



Fig.5

No.4025-25ZC 25ft
No.4025-50ZC 50ft
E/A No.6183-ZC w/No.5000-ZY Alum.
Captive Carabiner



No.4015-Z
Fall Arrester (FA)
Factory attached to the E/A

Ultra-Lite™ Cinch Knot D-ring Attachment

Dee-Loops are designed for captive attachment when removal of the E/A from the full body harness is not required.

Fig.6a



Fig.6b



Fig.6c



Feed Dee-Loop thru D-ring with PID label facing out as shown.

Cinch Dee-Loop Tightly

Stopper w/Clear PVC Shrink Tube (22, 23)
Adhesive Type PVC Shrink Tube End (24)



B-end

Lengths measured from Eye Thimble to Rope End

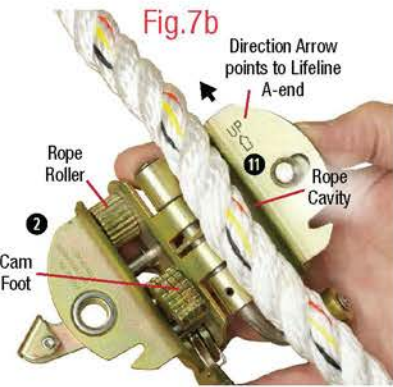
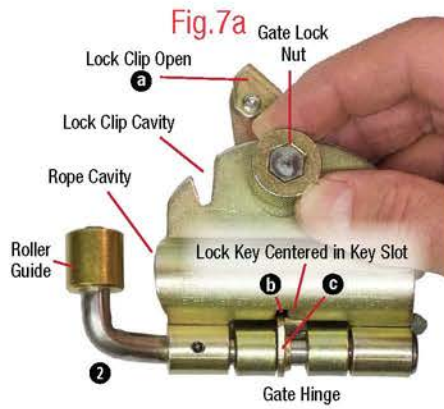
Fall Arrester Installation/Removal

Follow these instructions for installation or removal:

- 1) **Fig.7a:** First open the gate lock clip (a) and position gate key (b) into key slot (c). The lock nut won't unthread unless (a), (b) and (c) are performed first.
- 2) Unthread the gate lock nut.
- 3) **Fig.7b:** Place lifeline into gate cavity. Direction arrow must point to lifeline A-end.

Closing the Gate:

- 4) **Fig.7a:** Position gate key into key slot.
- 5) **Fig.7c:** Close gate lock clip (a) and securely tighten the lock nut. Perform function tests before using.



Fall Arrester(FA) Function Tests

Perform Cam Lock and Mobility Tests Prior to Each Use

☒=Test Fails remove from service ☑=Test passes

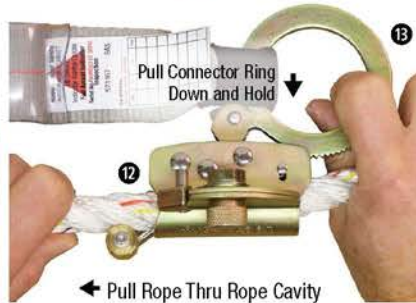
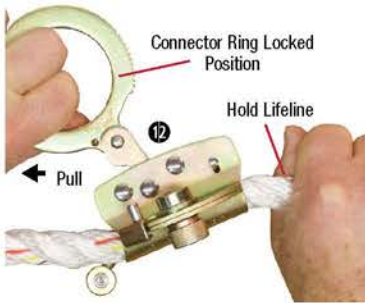
Over time a lifeline will grow in diameter due to the embedment of organic particles such as dirt and sawdust. This may result in failure of the mobility test requiring the lifeline to be removed from service. Clean lifeline with water or compressed air.

Fig.8a Cam Lock Test

Hold the A-end of the rope and pull connector ring in opposite direction as shown. Pass = FA does not move on lifeline. ☑ Failure = FA moves on lifeline. ☒

Fig.8b Mobility Test

Hold connector ring in open position and hold lifeline as shown. Pass = FA moves freely on the lifeline. ☑ Failure = FA does not move easily. Check cam foot and rope cavity for debris and retest. If test fails: ☒



Connector Ring Spring Test

The ring spring (See Fig.7d) must be intact or FA panic grab feature will not function properly. Test by holding the connector ring in the open position (See Fig.8b). Release the ring. It should spring back to the locked position (See Fig.8a). **REMOVE** the FA from service if the spring is missing or the spring test fails.

Warning! Failure to attach the FA in the correct direction will disable the locking function. In the event of a fall, **DO NOT** grab the lifeline above the FA's position (See Fig.9e) or the FA's body (See Fig.9f). **DO NOT** remove the FA from the E/A's factory loop attachment.

Lifeline Damaged/Modified/Non-Specified Use

Due to wear, tear and abuse, lifelines have a limited service life. Replace worn or damaged lifelines and correct non-specified uses.



Lifeline Inspection

Prior to each use, inspect lifelines for damage. **REMOVE** from service if subjected to a free fall or if any of the conditions shown at Figs. 9b, 9c, or 9g are evident.



Snaphooks/Carabiner Function Tests

Perform **Table 1.0** function tests before each use.

Connector Corrosion: Zinc plating corrodes when exposed to salt air and will lose some of its coating due to abrasion. This is normal. Removal from service is not required unless corrosion affects the locking function.

Fig.10a Snaphooks



Fig.10b



Fig.10c



Carabiners



Fig.11b



Fig.11c



Table 1.0 REMOVE from service if any test fails.

Fig.	Test Type	Function	Pass <input checked="" type="checkbox"/>	Fail <input checked="" type="checkbox"/>
10a-11a	Gate-lock	Push against gate only	Won't open	Opens
10b	Gate-open	Push gate-lock and gate at the same time	Opens	Won't open
10c	Gate-close	Release gate and gate-lock at same time	Snaps shut	Won't close and lock
11b-11-c	Unlock gate	Rotate twist-lock	Gate opens	Won't open
11a	Gate closes	Release twist-lock	Snaps shut	Won't close

Fig.12a E/A Inspection



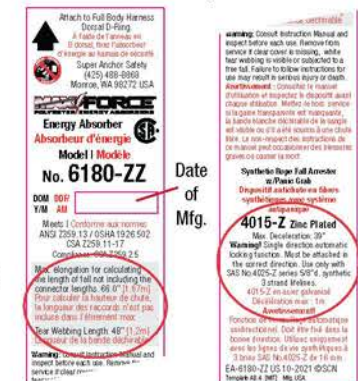
Fig.12b Serviceable Condition. Backer Webbing Covers the Fall Indicator



Fig.12c Fall Indicator



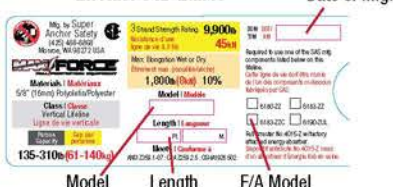
E/A PID Label Performance Specifications



CSA Performance Specifications Label



Lifeline PID Label



PPE Storage/Maintenance/Service Life

Store in a clean and dry area. **Service Life:** is determined by frequency of use, environmental conditions and normal wear. It is recommended to replace equipment after 3-5 years of service. **Disposal of Equipment:** dispose of in a way that will prevent further use. **WARNING!** Synthetic fibers are damaged by mildew, extreme temperatures, extended exposure to UV, water submergence and vermin.

Inspect Components Before Each Use!

Inspect and perform function tests for all components prior to each use. Inspection points [black circles (X)] are intended as guidelines only. Employers and PPE equipment owners are required to draft their own inspection plan that includes at least one annual inspection by a "Competent Person"* with the date recorded on the PPE inspection label (See p. 4).

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 PID labels missing or not legible.
- 4 No annual inspection.
- 5 Fails inspection/function tests.
- 6 Webbing/Stitches cut or abraded.

X = Inspection points **ACTION REQUIRED:** =Remove =Repair

Energy Absorber

- 7 Fall indicator label is visible or missing.
- 8 Tear webbing is deployed.
- 9 Absorber clear cover is missing or damaged.
- 10 Wear pads are missing or worn through to backer webbing.

Snaphook or Carabiner

- 15 Gate or frame is bent or gate won't open or close.
- 16 Twist-lock is damaged.
- 17 Carabiner won't lock or close.
- 18 Any missing rivets.

Fall Arrester

- 11 Arrow position is upside down. Remove and install correctly.
- 12 Does not pass 8a or 8b function tests.
- 13 Connector ring is bent or deformed.
- 14 Connector ring spring is missing.

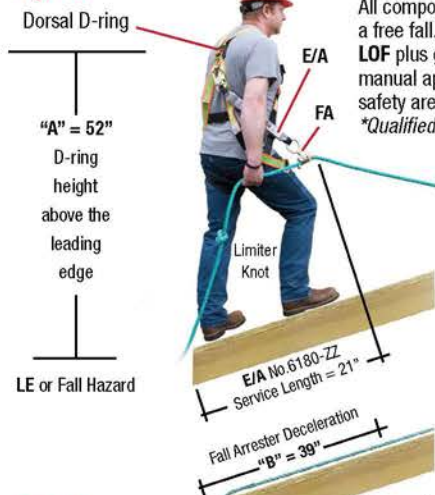
Lifeline

- 19 Eye thimble is deformed.
- 20 Swage is cracked.
- 21 Cut or damaged strands. Lifeline has been shortened.
- 22 End stopper is missing.
- 23 PVC swage cover missing or damaged. OK to use.
- 24 PVC shrink tube is missing/damaged. Wrap with electrical tape.

Lifeline Inspection



Fig.13



Length of Fall (LOF) 6ft Free Fall Example

All components of a fall protection system are subject to stretch, elongation and deceleration when subjected to a free fall. To prevent striking a lower level, the ground below, or exceeding PPE performance specifications, the LOF plus ground or obstacle clearance must be calculated as accurately as possible. The examples shown in this manual apply to equipment mfg. by SAS and are intended as examples only. Personnel* responsible for project safety are required to draft their own Length of Fall Plan LOFP.

*Qualified or competent person or a safety consultant as defined by CSA, ANSI or OSHA standards.

Length of Fall Example

Standing at the LE with no slack or angle in the Lifeline, the FA No.6180-ZZ should be placed on the lifeline no closer than its service length of 21" from the LE to reduce free fall to a minimum. E/A in tension (See Fig.13).

To prevent free falls greater than 6ft, the E/A should not be allowed to hang vertically when positioned at the LE (See Fig.16).

Note: The example plan shown here uses the maximum FA deceleration and E/A deployment lengths as specified by CSA standards and displayed on SAS PID labels. Green color lifeline used for contrast.

Key Code:

- E/A = Energy Absorber
- FA = Fall Arrester (rope grab)
- LE = Leading edge
- LOF = Length of fall

Calculating Free Fall Lengths

Two factors are required to limit free falls to 6ft:

- 1) D-ring height above the leading edge, fall hazard or work surface (See Fig.13).
- 2) The amount of slack/angle in the lifeline and/or the service length of the E/A that is allowed to hang vertically (See Fig.16).

Fig.14



Free Fall Event

Fall arrest occurs in 2 different phases. The worker steps over the LE (See Fig.14) and immediately free falls. The free fall length is equal to the D-ring height of 52" + any line slack or E/A length that is allowed to hang vertically. In this example, 20" of line slack + 52" = 72" total free fall before any force is applied to the FA.

Phase 1: After free falling 6ft, the E/A and lifeline are in tension and the force of the fall is applied to the FA. This initiates the FA's locking function. As it decelerates a max. length of 39" down the lifeline, the force of the fall causes the FA to lock fully onto the lifeline.

This action will initiate **Phase 2**. Note: A limiter knot positioned below the FA on the lifeline at the LE can be used to reduce the FA's deceleration distance to less than 39" (See Fig.17).

Leading Edge Swing Fall Hazard

Horizontal travel along the leading edge exposes the worker to a swing fall hazard. The free fall length will not increase provided the E/A and lifeline remain in tension. LOF will be increased by the angle of the lifeline off-center from the anchor point above.

Fig.16

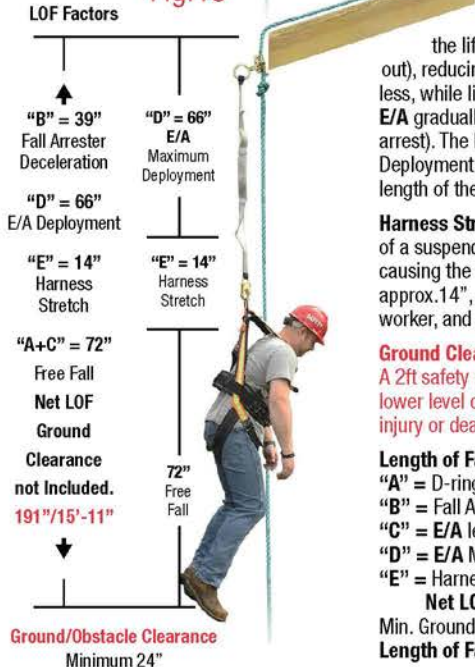
E/A Service Length

When the E/A is allowed to hang vertically at the LE, the total service length must be added to the free fall length.



Example Free Fall Calculation
 D-ring Height = 52"
 E/A + FA Service Length = 30"
 Total Free Fall Length = 82"

Fig.15



Fall Arrest

Phase 2 E/A Deployment: When the FA locks onto the lifeline, the E/A's tear webbing begins to deploy (tear out), reducing the free fall velocity and avg. arrest force to 1,350lb or less, while limiting the G forces to humanly sustainable levels. As the E/A gradually deploys, it brings the free fall to a complete stop (fall arrest). The E/A's tear webbing has a max. deployment length of 66". Deployment lengths will vary based on the workers weight and the length of the free fall. It is typically less than 66".

Harness Stretch: The force of the free fall combined with the weight of a suspended worker takes up any slack in the harness webbing causing the D-ring's D-Plate to slide upward. Harness stretch is approx.14", provided the harness has been properly adjusted to fit the worker, and reducing webbing slack to a minimum.

Ground Clearance Warning!

A 2ft safety margin should be added to the net LOF to avoid striking a lower level or the ground below. A failure to do so can result in serious injury or death.

Length of Fall Calculation

"A" = D-ring height above LE	52"
"B" = Fall Arrester deceleration	39"
"C" = E/A length over the LE	20"
"D" = E/A Max. Deployment	66"
"E" = Harness stretch	14"
Net LOF Total	191" [15'-11"]
Min. Ground Clearance	24"
Length of Fall Plan (LOFP)	215" [17'-11"]

Fig.17

Limiter Knot/Failsafe

An SAS original rigging design specified for use with our lifeline systems. A figure 8 or termination knot can be used to gauge the worker's position on the lifeline and reduce the FA's deceleration distance.





SUPER ANCHOR SAFETY®

SAS Synthetic Lifelines Instruction/Specification Manual 05-2024

ENGLISH
VERSION

!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.

Specifications of Use

Personal Fall Arrest System (PFAS) including tools and equipment for one person use only.
Specified for fall arrest, fall restraint and work positioning.
Max. free fall: 6ft. Max. user wt.: 310lb
Working Temperatures: -30°F[37°C] to 130°F[54°C]

Compliance

OSHA 1926.502, ANSI Z359.1-07/15-14

Connector Compliance

ANSI-Z359.12-2009 CSA-Z259.12-11

Snaphook class 1 connector 3,600lb gate strength

SAS = Super Anchor Safety **X** Inspection Points

Rope Grab = Fall arrester, integral adjuster, Super/Value Grab.

*OSHA definition: "Qualified or Competent Person"

Hazard Warnings! DO NOT come in contact with:

- Sharp or abrasive edges or cutting tools
- Electrical sources and power lines
- Open flame, high heat or hot asphalt
- Adhesives, gasoline, diesel, kerosene, solvents, acids, caulking, paint or stains
- Cleaning agents or any chemicals that are damaging to polyester or to zinc plated steel

Compatible Rope Grabs

Fig.5

No.4015 SuperGrab™**

7/16" Nylon/polyester.
Dual direction locking.
Captive do not remove.
Tensile strength 7,400lb.
Max. deceleration 12".



Lifeline A-end

↑
Locks
Both
Directions
↓

Fig.6

No.4015-V ValueGrab™**

7/16" Nylon/polyester.
Dual direction locking.
Captive do not remove.
Tensile strength 7,400lb.
Max. deceleration 12".



Lifeline B-end

Fig.7

No.4015-M Integral Adjuster

Zinc plated steel.
Fits 5/8" d. synthetic rope.
Single direction locking.
Captive do not remove.
Breaking strength 3,600lb.
Max. deceleration 24".



Lifeline A-end

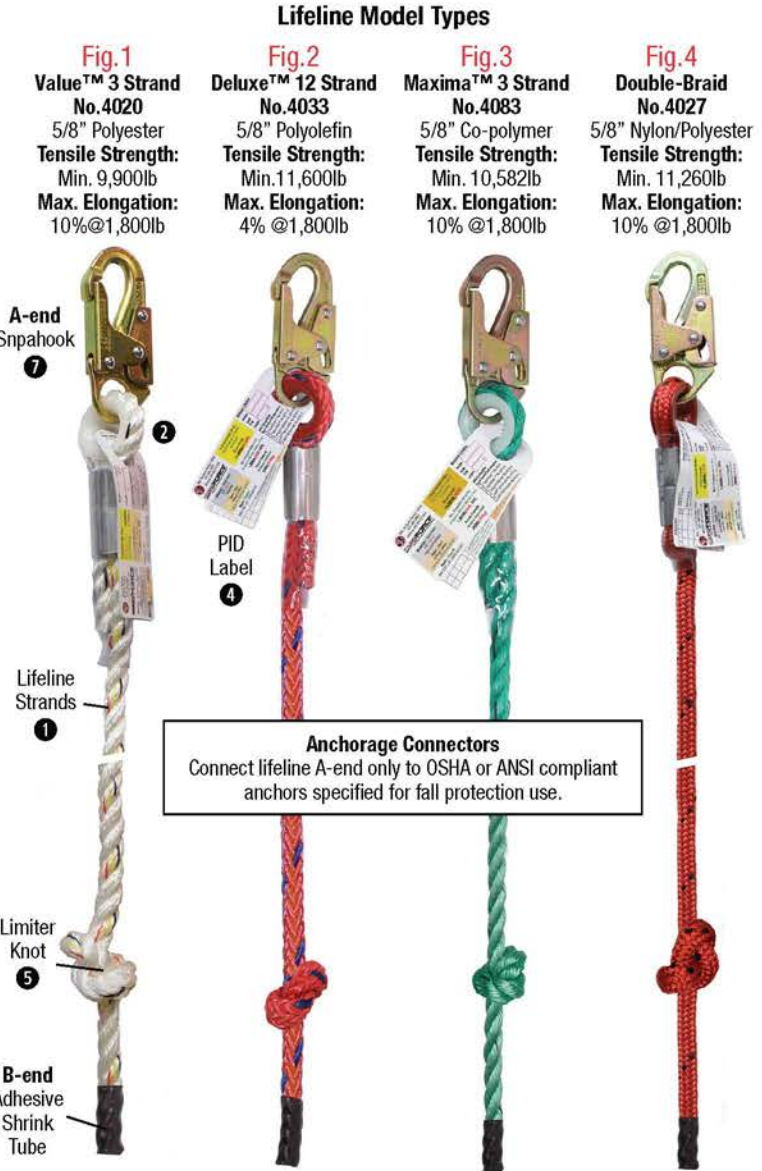
↓
Locks
One
Direction
Only
↓

Lifeline B-end

Fig.8

No.4015-Z/C Fall Arrester

Z=Zinc plated steel. C=st.
Fits 5/8" d. synthetic rope.
Single direction locking.
Removeable.
Breaking strength 3,600lb.
Max. deceleration 39".



Anchorage Connectors
Connect lifeline A-end only to OSHA or ANSI compliant anchors specified for fall protection use.

Limiter Knot

- 1) Use to gauge free fall length by adjusting position on the lifeline. See Length of Fall (LOF) pg 4.
- 2) Prevents rope grab from unintentional lifeline disengagement.

Warning! The limiter knot is required for use with SAS lifelines.

Fall Arrester/Integral Adjuster Compliance:

ANSI Z359.1-07/OSHA 1926.502

SuperGrab/ValueGrab Compliance:

ANSI Z359.12-2009

**Dept. of Labor compliance letter.

Fig.9

Aluminum Swage A-end Termination

Aluminum sleeve min. strength 5,000lb



Storage/Maintenance/Modification

- Store in dry area only away from vermin
- Do not store wet in confined space
- Clean with compressed air or brush
- Do not alter original length or attach components mfg. by others

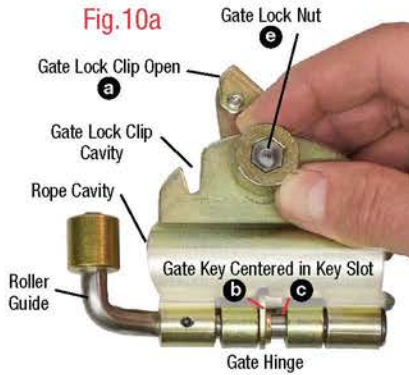
Fall Arrester (FA) Installation/Removal

- 1) Fig.10a: Open the gate lock clip **a** and position gate key **b** into key slot **c**. The gate lock **e** nut won't unthread unless **a**, **b** and **c** are performed first.
- 2) Unthread the gate lock nut **e**.
- 3) Fig.10b: Place lifeline into rope cavity. Direction arrow must point to lifeline A-end attached to anchor point.

Closing the Gate:

- 4) Fig.10a: Position gate key **b** into key slot **c**.
- 5) Fig.10c: Close gate lock clip **a** and securely tighten lock nut **e**. Perform 11a, 11b function tests before using.

Warning! Failure to attach the FA in the correct direction will disable the locking function.



Lock Tests: Perform Prior to Each Use

☒ = Test Fails remove from service. ☑ = Test passes.

Over time a lifeline will grow in diameter due to the accumulation of debris and failure of the mobility test 11b. Clean lifeline with water or compressed air. Failed mobility test ☒.

Fig.11a Cam Lock Test 16

Hold the A-end of the lifeline. Pull the connector ring in the opposite direction as shown.

FA does not move on lifeline. ☑
FA moves on lifeline. ☒

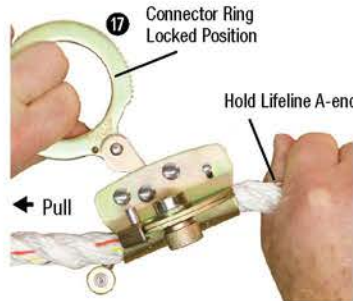


Fig.11b Mobility Test 16

Hold connector ring in open position holding the lifeline A-end as shown.

FA moves freely on the lifeline. ☑
FA does not move easily. ☒
Check cam lock and rope cavity for debris and retest. If test fails: ☒

Shown w/Factory Attached E/A

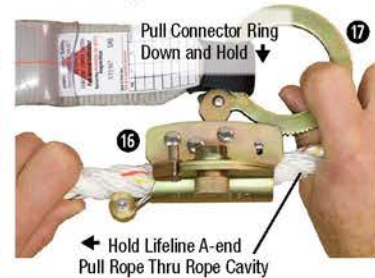


Fig.10d

Connector Ring Spring Intact

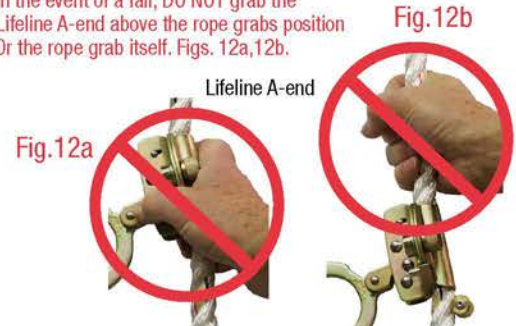


Connector Ring Spring Test

Fig.10d ring spring must be intact and function properly. Test by holding the connector ring in the open position Fig.11b. The ring should spring back to the locked position Fig.11a ☑
Spring is missing or fails the spring test, remove from service ☒

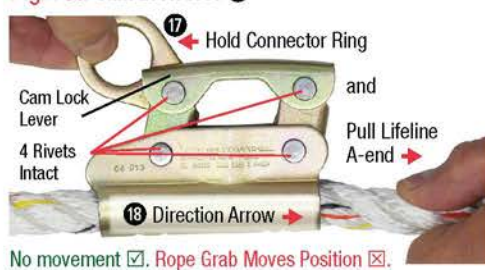
Warning! Applies to all Rope Grabs.

In the event of a fall, DO NOT grab the Lifeline A-end above the rope grabs position Or the rope grab itself. Figs. 12a, 12b.



Integral Adjuster Inspection/Lock Tests

Fig.13a Cam Lock Test 16



No movement ☑. Rope Grab Moves Position ☒.

Rope Grab Fall Indicators
The SuperGrab hand hold breaks when subjected to a free fall. Damage is evident ☒.
The ValueGrab eye thimble will deform when subjected to a free fall. See Fig.18 ☒.

Fig.13b Spring/Mobility Test 16



Spring Test

Depress Cam Lock Lever and Release.
Springs back quickly ☑
Does not spring back ☒

Mobility Test

Depress Cam Lock Lever Down
Lifeline moves easily ☑
Does not move easily ☒

Super/Value Grab Inspection/Lock Tests

Fig.14 SuperGrab

Lock Test 15

Hold Lifeline A-end. Pull Rope Grab in Both Directions →



Fig.15 ValueGrab 15

SuprGrab/ValueGrab Lock Test

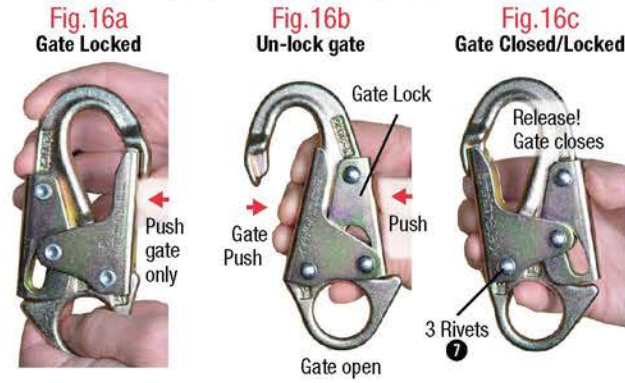
Grab knot does not move ☑
Grab knot moves easily ☒



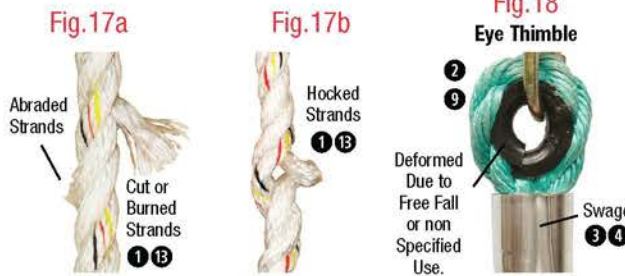
Daily and Annual Inspections

Perform lifeline inspection, rope grab and snaphook function tests prior to each use and by a qualified or "competent" person at least once a year. A record of inspections and removal of lifelines from service should be maintained for each lifeline. The following inspection points are common conditions that occur as a result of abuse, poor maintenance or long service life and should be used as an inspection guideline. Employers and safety personnel are responsible for drafting their own fall protection equipment inspection and maintenance program which may include the information contained in this manual.

Snaphook Class 1 Connector 7



Lifeline Inspection



Lifeline Knots



Incompatible Connections

Warning! DO NOT make incompatible connectors as shown in Figs. 20. They may result in failure of the lifeline to sustain a free fall.



Fig. 20b DO NOT Connect Snaphooks Together



Fig. 20c DO NOT Tie Lifelines Together



Fig. 20d DO NOT Tie a Lifeline to a Anchorage Point Attach Lifeline A-end w/class 1 connector only.



Table 1. Snaphook Function Tests

Fig.	Test Type	Function	Pass <input checked="" type="checkbox"/>	Fail <input checked="" type="checkbox"/>
16a	Gate-lock	Push against gate only	Won't open	Opens
16b	Gate-open	Push gate-lock and gate	Opens	Won't open
16c	Gate-close	Release gate and gate-lock at same time	Snaps shut	Won't close and lock

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

= Remove From Service. = Make Changes as Noted.

Primary Inspection Points

- Lifeline subjected to a free fall or unspecified use.
- Fails inspection/function tests.
- Has not been inspected annually.
- Perform annual inspection and return to service.
- Expired service life see Table 2.

Lifeline

- Strands are cut, hocked or have heat damage. Figs. 17a, 17b.
- Eye thimble is deformed or missing. Fig. 18.
- Swage cracked or loose. Figs. 9, 18.
- PID/Inspection label missing. Figs. 1, 2, 3, 4.
- Limiter knot missing. Tie limiter knot below rope grab position. Fig. 19a.
- Knots tied above rope grab. Remove knot. Fig. 19b.

Snaphook Table 1

- Fails function test or inspection. Missing rivets. Figs. 16a, b, c.

Super Grab

- Hand grab is cracked. Missing screws. Figs. 5, 14.

Value Grab

- Eye thimble is deformed or missing. Figs. 15, 18.
- Swage cracked or loose. Figs. 9, 15.
- Swage clear cover missing. Figs. 9, 18. OK to use.

SuperGrab/ValueGrab

- PID/inspection labels missing. Figs. 14, 15.
- Rope grab stands cut or hocked. Figs. 17a, b.
- Less than 6 rope wraps. Figs. 14, 15. Add additional wraps as needed.
- Fails locking test. Figs. 14, 15.

Fall Arrester/Integral Adjuster

- Fails inspection/lock tests. Figs. 10a, b, c. 11a, b. 13a, b.
- Connector ring bent or deformed. Figs. 11a, 13a.
- Arrow not pointing to lifeline A-end. Figs. 10b, 13a. Remove and orient in correct position.

Zinc Plating Corrosion

Minor surface corrosion does not require to remove from service. Salt air accelerates corrosion and can be reduced by rinsing with fresh water after use. Remove from service if deep pitting or extreme rust is present.

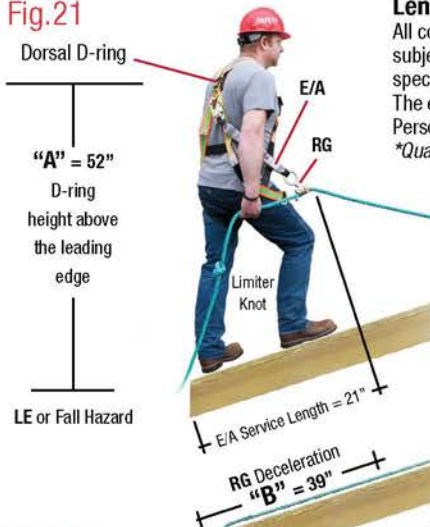
Lifeline/Rope Grab Service Life

Deterioration of synthetic rope is difficult to determine by visual inspection. Service life is based on UV exposure and frequency of use.

Table 2. SAS Recommended Service Life

Use	UV Exposure/Service Life Years		
Low		3-5 yrs	2-3 yrs
Moderate	Low	2-4 yrs	High 1-3 yrs
Daily		1-3 yrs	1-2 yrs

Fig.21



Length of Fall (LOF) 6ft Free Fall Example

All components of a fall protection system are subject to stretch, elongation and deceleration when subjected to a free fall. To prevent striking a lower level, the ground below, or exceeding PPE performance specifications, the LOF plus ground or obstacle clearance must be calculated as accurately as possible. The examples shown in this manual apply to equipment mfg. by SAS and are intended as an example only. Personnel* responsible for project safety are required to draft their own Length of Fall Plan LOFP. *Qualified or competent* person or a safety consultant as defined by OSHA.

LOF Example

Standing at the LE with no slack or angle in the Lifeline, the RG should be placed on the lifeline no closer than its service length of 21" from the LE to reduce free fall to a minimum. E/A in tension see Fig.21. To prevent free falls greater than 6ft, the E/A should not be allowed to hang vertically when positioned at the LE Fig.24.

Note: The example plan specifies a 39" RG deceleration and E/A deployment of 48".

Key Code:

- E/A = Energy Absorber
- RG = Rope Grab
- LE = Leading edge
- LOF = Length of fall

Calculating Free Fall Lengths

Two factors are required to limit free falls to 6ft:

- 1) D-ring height above the leading edge, fall hazard or work surface Fig.21.
- 2) The amount of slack/angle in the lifeline and the service length of the E/A that is allowed to hang vertically Fig.24.

Fig.22



Free Fall Event

Fall arrest occurs in 2 different phases. The worker steps over the LE, Fig.22, and immediately free falls. The free fall length is equal to the D-ring height of 52" + any line slack or E/A length that is allowed to hang vertically. In this example, 20" of line slack + 52" = 72" total free fall before any force is applied to the RG.

Phase 1: After free falling 6ft, the E/A and lifeline are in tension and the force of the fall is applied to the RG. This initiates the RG's locking function. As it decelerates a max. length of 39" down the lifeline, the force of the fall causes the RG to lock fully onto the lifeline.

This action will initiate Phase 2. Note: A limiter knot positioned below the RG on the lifeline at the LE can be used to reduce the RG's deceleration distance to less than 39", Fig.25.

Leading Edge Swing Fall Hazard

Horizontal travel along the leading edge exposes the worker to a swing fall hazard. The free fall length will not increase provided the E/A and lifeline remain in tension. LOF will be increased by the angle of the lifeline off-center from the anchor point above.

Fig.24

E/A Service Length

When the E/A is allowed to hang vertically at the LE, the total service length must be added to the free fall length.



Example Free Fall Calculation

D-ring Height = 52"
E/A + RG Service Length = 30"
Total Free Fall Length = 82"

Fig.23



Fall Arrest

Phase 2 E/A Deployment: When the RG locks onto the lifeline, the E/A's tear webbing begins to deploy (tear out), reducing the free fall velocity and avg. arrest force to 1,350lb or less, while limiting the G forces to humanly sustainable levels. As the E/A gradually deploys, it brings the free fall to a complete stop (fall arrest). The E/A's tear webbing has a max. deployment length of 66". Deployment lengths will vary based on the workers weight and the length of the free fall. It is typically less than 66".

Harness Stretch: The force of the free fall combined with the weight of a suspended worker takes up any slack in the harness webbing causing the D-ring's D-Plate to slide upward. Harness stretch is approx.14", provided the harness has been properly adjusted to fit the worker, and reducing webbing slack to a minimum.

Ground Clearance Warning!

A 2ft safety margin should be added to the net LOF to avoid striking a lower level or the ground below. A failure to do so can result in serious injury or death.

Length of Fall Calculation

"A" = D-ring height above LE	52"
"B" = Rope grab deceleration	39"
"C" = E/A length over the LE	20"
"D" = E/A Max. Deployment	66"
"E" = Harness stretch	14"
Net LOF Total	191"/16'
Min. Ground Clearance	24"
Length of Fall Plan (LOFP)	215"/18'

Note:

The LOF example shown here specifies No.4015-Z fall arrester deceleration Length of 39". No.4015-M, SuperGrab and ValueGrab deceleration lengths are shorter reducing the LOF. Figs. 5,6.

Fig.25



Termination Knot



SUPER ANCHOR SAFETY®

Cuerdas Salvavidas Sintéticas SAS Manual de Instrucciones/Especificaciones 05-2024

¡ADVERTENCIA AL USUARIO!

Usted debe leer y usar el manual de instrucciones y especificaciones despachado junto con este dispositivo. El uso o instalación incorrecta, pueden resultar en heridas serias o la muerte. Siga los requerimientos de inspección.

SPANISH VERSION

Especificaciones de Empleo

Sistema Personal para Detención de Caídas (PFAS) incluidas las herramientas y equipos para uso de una sola persona. Especificado para detención de caídas, restricción de caídas y posicionamiento de trabajo.

Caída Libre Max.: 6pies. **Peso Max. del Usuario:** 310lb
Temperatura de Trabajo: -30°F[34°C] hasta 130°F[54°C]

Cumple con las normas

OSHA 1926.502, ANSI Z359.1-07/15-14

Los Conectores Cumplen con las Normas:

ANSI-Z359.12-2009 CSA-Z259.12-11

Gancho de Seguridad Conector clase 1, Resistencia de la Compuerta 3,600lb

SAS = Super Anchor Safety **X** Puntos de inspección

Sujetador de Cuerda = Sujetador anticaídas, Sujetador de ajuste integral, Sujetadores SuperGrab/ValueGrab.

**Definición de OSHA: "Persona Calificada o Competente"*

¡Advertencia de Peligro! NO ponerlas en contacto con:

- Bordes afilados o abrasivos, o herramientas de corte
- Fuentes de electricidad o cables eléctricos
- Llamas abiertas, altas temperaturas o asfalto caliente.
- Adhesivos, gasolina, diésel o queroseno, solventes, ácidos, selladores, pinturas o tintes.
- Productos de limpieza o cualquier químico que dañe el poliéster o piezas de acero galvanizadas.

Sujetadores de Cuerda Compatibles

Fig.5

Sujetador SuperGrab™**
No.4015

Nilón/Poliéster de 7/16"
Bloqueo en Ambas Direcciones
Cautivo, no retirarlo
Resistencia a la tracción 7,400lb
Desaceleración máx. 12".



Extremo A Cuerda Salvavidas



Bloquea
En ambas
Direcciones

Fig.6

Sujetador ValueGrab™**
No.4015-V

Nilón/Poliéster de 7/16"
Bloqueo en Ambas Direcciones
Cautivo, no retirarlo
Resistencia a la tracción 7,400lb
Desaceleración máx. 12".



Extremo B
Cuerda
Salvavidas

Trenzas de
la cuerda
salvavidas
1

Nudo
Limitador
5

Extremo B
Tubo adhesivo
Termo
encogible

Modelos de Cuerdas Salvavidas

Fig.1

Value™ de 3 Trenzas
No.4020

Polyester de 5/8"
Resistencia a la
tracción:
Min. 9,900lb
Estiramiento Max.:
10%@1,800lb



Extremo A
Gancho de
Seguridad
7

Fig.2

Deluxe™ de
12 Trenzas
No.4033

Polioléfina de 5/8"
Resistencia a la
tracción:
Min. 11,600lb
Estiramiento Max.:
4%@1,800lb



Etiqueta de
identificación
4

Fig.3

Maxima™ de
3 Trenzas
No.4083

Copolímero de 5/8"
Resistencia a la
tracción:
Min. 10,582lb
Estiramiento Max.:
10%@1,800lb



Fig.4

Doble Trenza
No.4027

Nilón/Poliéster de 5/8"
Resistencia a la
tracción:
Min. 11,260lb
Estiramiento Max.:
10%@1,800lb



Conectores de Anclajes

Conectar el extremo A de la cuerda salvavidas solamente a anclajes especificados para protección contra caídas que cumplan con las normas OSHA o ANSI.

Fig.7

Sujetador de Ajuste Integral
No.4015-M

Acero enchapado en zinc
Se ajusta a cuerdas sintéticas con
diámetro de 5/8"
Bloqueo en una sola dirección
Resistencia a la ruptura 3,600lb
Desaceleración Max.: 24".



Extremo A Cuerda
Salvavidas

Bloquea
Solamente En
Un Solo
Sentido

Extremo B Cuerda
Salvavidas

Fig.8

Sujetador Anticaídas No.4015-Z/C

Z=acero enchapado en zinc.
C=acero inoxidable
Se ajusta a cuerdas sintéticas con
diámetro de 5/8"
Bloqueo en una sola dirección
Removible
Resistencia a la ruptura 3,600lb
Desaceleración Max.: 39".



Nudo Limitador

- 1) Emplearlo para medir la longitud de la caída libre ajustando su posición en la cuerda salvavidas. Ver Distancia de Caída (LOF) Pag.4.
- 2) Evita que el sujetador de cuerda se desenganche accidentalmente de la cuerda salvavidas.

¡Advertencia! Las cuerdas salvavidas SAS requieren el uso del nudo limitador.

Los Sujetadores Anticaídas/
Sujetadores de Ajuste Integral
Cumplen con las Normas:
ANSI Z359.1-07/OSHA 1926.502
Los Sujetadores SuprGrab/ValueGrab
Cumplen con las Normas:

**Comunicado del Departamento de
Labor & Industrias

Fig.9

Extremo A Terminado con Casquillo de Aluminio Prensado

El Casquillo de Aluminio Tiene Resistencia Min. de 5,000lb

Guardacabos
plástico 2

Casquillo de aluminio
prensado 10



Cubierta de Tubo Termo Encogible de PVC Claro 11

Almacenamiento/Cuidado/Modificaciones

- Guardarlos solamente en áreas secas lejos de alimañas.
- No guardarlos en espacios cerrados cuando estén húmedos.
- Limpiarlos con aire comprimido o con cepillos.
- No modificar la longitud original o ponerle conectores de otros fabricantes.

Instalación y Remoción del Dispositivo Anticaídas (FA)

- Fig.10^a: Abra el clip de la cerradura **a** y coloque la llave de la cerradura **b** en la ranura de la llave **c**. La tuerca de la cerradura **e** no se desenrosca a menos que los pasos **a**, **b** y **c** se realicen primero.
- Desenrosque la tuerca de la cerradura **e**.
- Fig.10^b: Coloque la cuerda salvavidas en el canal para cuerda. La flecha de dirección debe apuntar al extremo A de la cuerda salvavidas que está conectada al punto de anclaje.

Cierre de la Compuerta:

- Fig.10^c: Ponga la llave de la cerradura **b** en la ranura de la llave **c**.
 - Fig.10^c: Cierre el clip de bloqueo de la cerradura **a** y apriete firmemente la tuerca de la cerradura **e**. Realice las pruebas de funcionamiento **11a** y **11b** antes de usarla.
- ¡Advertencia!** El no poner el Dispositivo Contra caídas en la dirección correcta deshabilitará la función de bloqueo.



Pruebas de Bloqueo: Realizarlas antes de cada uso

= La Prueba Falla, retirar del servicio. = Pasa la Prueba.
 Con el tiempo el diámetro de una cuerda salvavidas aumentará debido a la acumulación de basuras y fallará en la prueba de movilidad **11b**. Limpie la cuerda salvavidas con agua o aire a presión. Falla la prueba de movilidad .

Fig.11a Prueba de bloqueo de las levas **16**

Sujete el extremo A de la cuerda salvavidas. Hale el anillo conector en la dirección opuesta como se muestra. El Dispositivo Contra Caídas no se mueve sobre la cuerda
 El Dispositivo Contra Caídas se mueve sobre la cuerda



Fig.11b Prueba de Movilidad **16**

Sujete el anillo conector en la posición de abierto sosteniendo el extremo A de la cuerda salvavidas como se muestra. El Dispositivo Contra Caídas se mueve libremente sobre la cuerda
 El Dispositivo Contra Caídas no se mueve con facilidad sobre la cuerda
 Revise por basura dentro de las ranuras de las levas y de la cuerda y pruébelo nuevamente. Si la prueba falla:

Se Muestra con un Amortiguador de Energía Instalado de Fábrica.



Fig.10c



Fig.10d



Prueba del Resorte del Anillo del Conector

Fig.10^d el resorte de anillo debe estar intacto y funcionar correctamente. Para probarlo sostenga el anillo del conector en la posición de abierto Fig.11^b. El anillo deberá devolverse a la posición de bloqueo Fig.11^a . Si el anillo falta o falla la prueba del resorte, retírelo del servicio

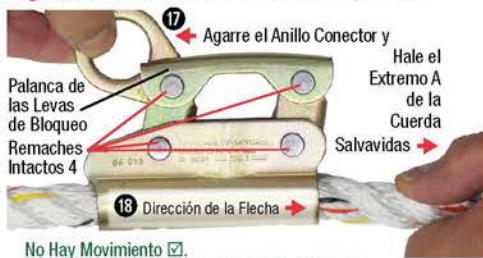
¡Advertencia! Aplica para todos los Sujetadores de cuerda.

En el caso eventual de una caída, POR NINGÚN MOTIVO agarre el extremo A de la cuerda salvavidas por encima de la posición de agarre o del propio sujetador de la cuerda. Figs. 12a,12b.



Inspección/Prueba de Bloqueo del Sujetador de Ajuste Integral

Fig.13a Prueba de las Levas de Bloqueo **16**



No Hay Movimiento .
 El Sujetador de Cuerda Cambia de Posición .

Indicador de Caída de los Sujetadores de Cuerda
 La manija de los sujetadores SuperGrab se quiebran cuando se exponen a una caída libre. El daño es evidente . Los guardacabos de los sujetadores ValueGrab se deforman cuando se exponen a una caída libre. Ver Fig.18 .

Fig.13b Prueba de Resorte/Movilidad **16**



Prueba del Resorte
 Presione la Palanca de Bloqueo de la Leva y Suéltela. Regresa Rápidamente
 No Regresa a su Posición

Prueba de Movilidad
 Presione Hacia Abajo la Palanca de Bloqueo de la Leva La Cuerda Salvavidas de Mueve Fácilmente
 No se Mueve con Facilidad

Inspección/Pruebas de Bloqueo de Sujetadores SuperGrab/ValueGrab

Fig.14 Sujetador SuperGrab

Prueba de Bloqueo **15**

◀ Sujete el Extremo A de la Cuerda Salvavidas. Hale el Sujetador de Cuerda en Ambas Direcciones ▶



Fig.15 Sujetador ValueGrab **15**

Prueba de Bloqueo para Sujetadores SuperGrab/ValueGrab

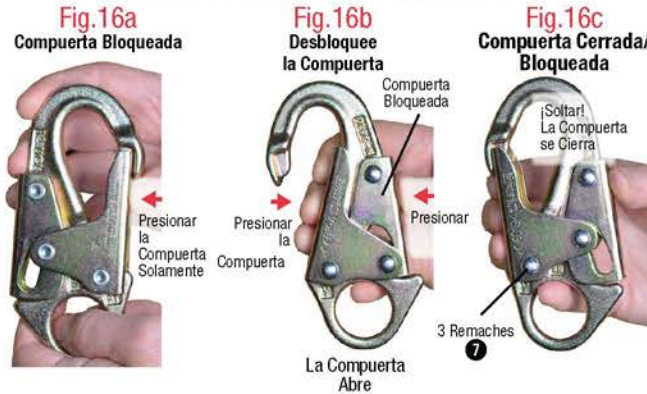
El nudo de sujeción no se mueve
 El nudo de sujeción se mueve fácilmente



Inspecciones Diarias y Anuales

Antes de cada uso, lleve a cabo inspecciones y pruebas de funcionamiento de las cuerdas salvavidas, sujetadores de cuerda y ganchos de seguridad, y por una persona calificada o "competente" al menos una vez al año. Se debe llevar un control de registro de inspecciones y retirada del servicio para cada cuerda salvavidas. Los siguientes puntos de inspección de las cuerdas son para condiciones comunes que ocurren como resultado de abuso, mantenimiento deficiente o uso más allá de su vida útil y deben ser usadas como guías de inspección. Los propietarios de empresas y el personal de seguridad son los responsables de crear su propio programa de inspección de equipos de protección contra caídas y su programa de mantenimiento, los cuales pueden incluir la información contenida en este manual.

Gancho de Seguridad Conector Clase 1



Inspección de las Cuerdas Salvavidas



Nudos Limitadores



Conexiones Incompatibles
 ¡Advertencia! No haga las conexiones incompatibles mostradas en las Figs. 20. Estas Pueden Ocasionar que la Cuerda Salvavidas Falle y no Soporte una Caída Libre.



Fig. 20b NO Conectar los Ganchos de Seguridad Juntos



Fig. 20c NO Atar Cuerdas Salvavidas Juntas



Fig. 20d NO Ate una Cuerda Salvavidas directamente a un Punto de Anclaje. Conecte el extremo A de una Cuerda Salvavidas Solamente con un Conector Clase 1



Tabla 1. Pruebas de Funcionamiento del Gancho de Seguridad

Fig.	Tipo de Prueba	Función	Pasa <input checked="" type="checkbox"/>	Falla <input checked="" type="checkbox"/>
16a	Bloqueo de Compuerta	Presionar la compuerta solamente	No abre	Abre
16b	Apertura de Compuerta	Presionar el seguro de la compuerta y la compuerta	Abre	No abre
16c	Cierre de Compuerta	Soltar la compuerta y el seguro de la compuerta al mismo tiempo.	Se cierra de golpe	No cierra ni bloquea

Retirar el equipo del servicio si se presenta alguna de las siguientes condiciones:

= Retirar del Servicio. = Hacer los cambios según lo indicado.

Puntos Principales de Inspección

- La cuerda salvavidas estuvo expuesta a una caída libre o uso no especificado.
- No pasa los puntos de inspección/pruebas de funcionamiento
- No ha sido revisada anualmente
- Efectuar la inspección anual y devolverla al servicio
- Expiró la vida útil, ver tabla 2.

Cuerdas Salvavidas

- Las hebras tienen cortes, están entorchadas o tienen daño por calor. Figs. 17a, 17b.
- El guardacabo está deformado o falta. Fig. 18.
- El casquillo de aluminio presado está agrietado o flojo. Figs. 9, 18.
- Falta la etiqueta de identificación/inspección del producto. Figs. 1, 2, 3, 4.
- Falta el nudo limitador. Atar un nudo limitador debajo del dispositivo sujetador de cuerda. Fig. 19a.
- Nudos atados encima del sujetador de cuerda. Retire el nudo. Fig. 19b.

- Falta el protector transparente del casquillo. Figs. 9, 18. Esta bien usarlo.

Sujetadores de Cuerda SuperGrab / ValueGrab

- Falta la etiqueta de identificación/inspección del producto. Figs. 14, 15.
- Las trenzas de los sujetadores de cuerda tienen cortes o están entorchadas. Figs. 17a, b.
- La cuerda tiene menos de 6 vueltas. Figs. 14, 15. Agregue las vueltas que sean necesarias.
- Falla la prueba de bloqueo. Figs. 14, 15.
- No pasa la inspección/prueba de bloqueo. Figs. 10a, b, c, 11a, b, 13a, b.
- El Anillo de conexión esta doblado o deformado. Figs. 11a, 13a.
- La flecha no está apuntando hacia el extremo A de la cuerda salvavidas. Figs. 10b, 13a. Retíralo y orientarlo en la posición correcta.

Gancho de Seguridad Tabla 1

- No pasa la prueba de funcionamiento o la inspección. Faltan remaches. Figs. 16a, b, c.

Super Grab

- La manija del sujetador de cuerda está rota. Le faltan tornillos. Figs. 5, 14.

Sujetador de cuerda ValueGrab

- El guardacabo esta deformado o falta. Figs. 15, 18.
- El casquillo de aluminio presado está agrietado o flojo. Figs. 9, 15.

Oxidación del Electrozincado

Si presenta corrosión superficial menor no es necesario retirarlo del servicio. El aire salino acelera la corrosión; después de usarlo puede enjuagarlo con agua dulce para reducir la oxidación. Retire del servicio si hay corrosión profunda o si presenta oxidación extrema.

Vida Util de las Cuerdas Salvavidas/Sujetadores de cuerda

Es difícil determinar el deterioro de la cuerda sintética con solo la inspección visual. La vida útil está basada en la exposición a rayos UV y la frecuencia de uso.

Tabla 2. Vida Util Recomendada por SAS

Uso	UV Exposure/Service Life Years		
Bajo	Bajo	3-5 años	2-3 años
Moderado	Bajo	2-4 años	1-3 años
Diario	Bajo	1-3 años	1-2 años

Fig.21



Longitud de Caída (LOF) Ejemplo de Caída Libre de 6pies

Todos los componentes de un sistema de protección contra caídas cuando se someten a una caída libre están sujetos a efectos de estiramiento, elongación y desaceleración. Para evitar golpearse contra niveles inferiores, el terreno debajo o exceder las especificaciones de funcionamiento del PPE, debe calcularse lo más preciso posible el LOF más la distancia libre al suelo u obstáculo. Los ejemplos mostrados en este manual aplican para los productos fabricados por SAS y son solamente para ilustración. Las Personas Responsables* de la seguridad de un proyecto deben diseñar su propio Plan de la Longitud de Caída LOFP.

*Persona Calificada o Competente o consultor de seguridad como está definido por OSHA.

Ejemplo para LOF

Parándose sobre el borde del frente de trabajo (LE) sin que la cuerda salvavidas tenga holgura ni ángulo, el sujetador de cuerda (RG) debe colocarse en la cuerda salvavidas a no menos de 21" de su distancia de servicio desde el borde del LE para así reducir una caída libre a su mínimo. Amortiguador de energía (E/A) tensionado ver Fig.21.

Para prevenir caídas libres de más de 6pies, no se debe permitir que el E/A cuelgue verticalmente cuando este sobre el LE. Fig.24.

Nota: el dibujo de ejemplo especifica una desaceleración de 39" para el RG y un despliegue de 48" para el E/A.

Abreviaciones:

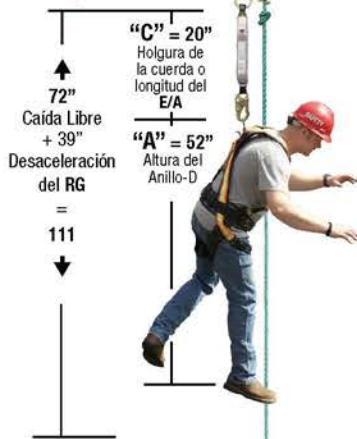
- E/A = Amortiguador de energía
- RG = Dispositivo sujetador de cuerda
- LE = Frente del borde de trabajo
- LOF = Longitud de Caída

Cálculo de la Distancia de Caída Libre

Se requieren dos factores para limitar una caída libre a 6pies:

- 1) La altura del anillo-D sobre el borde del frente de trabajo, peligro de caída o a la superficie de trabajo Fig.21.
- 2) La cantidad de holgura/ángulo de la cuerda salvavidas y la longitud de servicio del E/A permitida a colgar verticalmente Fig.24.

Fig.22



Evento de una Caída Libre

La detención de una caída libre sucede en 2 fases distintas: El trabajador se para sobre el borde LE, Fig.22, e inmediatamente sufre una caída libre. La distancia de la caída libre es igual a la altura del anillo-D de 52" + cualquier holgura en la cuerda o longitud del E/A que sea permitido que cuelgue verticalmente.

En este ejemplo se tiene 20" de holgura en la cuerda + 52" = 72" de caída libre antes de que cualquier fuerza sea aplicada al RG.

Fase 1: después de caer libremente 6pies, el E/A y la cuerda salvavidas se tensionan y la fuerza de esta caída es aplicada al RG. Esto inicia la función de bloqueo del RG. A medida que desacelera a una longitud máx. de 39" en la cuerda salvavidas, la fuerza de la caída hace que el RG se bloquee sobre la cuerda salvavidas.

Esa acción iniciará la Fase 2.

Nota: un nudo limitador atado en la cuerda salvavidas debajo del RG sobre el LE puede ser usado para la desaceleración del RG a una distancia menor a 39", Fig. 25.

Peligro de Caída de Columpio Desde el Borde de Trabajo

Un trabajador que se mueva horizontalmente a lo largo del frente de trabajo se expone a un peligro de caída tipo columpio. La distancia de la caída libre no aumentará siempre y cuando el E/A y la cuerda salvavidas permanezcan en tensión. El LOF se incrementará por el ángulo de separación de la cuerda salvavidas con respecto al punto de anclaje por encima.

Fig.24

Longitud de Servicio de los E/A

Cuando se permite que el E/A cuelgue sobre el LE, se debe adicionar su longitud de servicio a la longitud de caída.



Ejemplo de Cálculo de una Caída Libre

Altura del Anillo-D = 52"
Longitud de Servicio de E/A + RG = 30"
Longitud Total de Caída Libre = 82"

Fig.23



Detención de Caída

Fase 2 Despliegue del E/A: Cuando el RG se bloquea en una cuerda salvavidas, la correa de desgarre del E/A comienza a desplegarse (rascarse), disminuyendo la velocidad de la caída libre y una fuerza promedio de 1,350lb o menor, mientras limita las fuerzas G a niveles humanamente soportables. A medida que el E/A se despliega, este conlleva a que la caída libre se detenga completamente (detención de caídas). La cinta de desgarre del E/A tiene una longitud de despliegue máximo de 66". La longitud de despliegue varía basado en el peso del trabajador y la longitud de la caída libre. Típicamente es menor a 66".

Estiramiento del arnés corporal: La fuerza de una caída libre combinada con el peso del trabajador suspendido absorbe cualquier holgura de las correas del arnés haciendo que el anillo-D y su almohadilla se deslicen hacia arriba. Un arnés se estira aproximadamente 14", siempre y cuando este haya sido ajustado correctamente al cuerpo del trabajador y la holgura de las correas se hayan reducido al mínimo.

¡Advertencia de Distancia Libre al Suelo!

Se debe adicionar un margen de seguridad de 2pies al cálculo neto del LOF para evitar golpear un nivel inferior o el terreno debajo. No hacerlo puede resultar en heridas serias o la muerte.

Cálculo de la distancia de Caída

"A" = Altura del Anillo-D sobre el LE	52"
"B" = Desaceleración del Sujetador de Cuerda	39"
"C" = Longitud del E/A sobre el LE	20"
"D" = Despliegue Máximo del E/A	66"
"E" = Estiramiento del Arnés	14"
Total Neto del LOF	191"/16"
Distancia Mínima Libre al Suelo	24"
Planeación de la Longitud de Caída (LOFP)	215"/18"

Nota:

El ejemplo de LOF mostrado aquí es específico para el dispositivo sujetador de cuerda modelo No.4014-Z con una distancia de desaceleración de 39". La distancia de desaceleración de los sujetadores SuperGrab No.4015-M y ValueGrab son mas cortas por lo que reducen el LOF. Figs. 5,6.

Fig.25





SUPER ANCHOR SAFETY®

ARS Permanent Roof Anchor Instruction/Specification Manual 2018

ENGLISH
VERSION

!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.

Materials Specifications

Anchor: 430 stainless steel
14 or 11 gauge as specified.
Temperature Range: 430sst is rated for -30°F
up to +120°F

Min. Tensile Strength: 5,000lb (22.5kN)
Attachment Bolt: 5/16-18 x 2-1/4" grade 8 w/lock nut.
Teko Nails: 1-1/4" zinc plated

The term **SAS** used in this manual refers to **Super Anchor Safety**.

Compliance: OSHA 1926.502/1910.66
Z359.1-07/A10.32-2012
ARS 2x4 Meets Safety Code for use in Québec.
Certified by a member of l'Ordre des ingénieurs
du Québec.

Specification of Use

A permanent fall protection anchor attached to wood or steel framed top chords or other framing members. Waterproofing requires the use of an **SAS** factory supplied flashing system with base flashing perimeter caulking supplied by the user. See Table 1.

Fall Protection Specification

ARS anchors are rated for Fall Arrest or Fall Restraint for one person with a maximum body weight of 340lb (154kg) including tools and equipment. Do not attach more than 1 person or 1 connector to an ARS anchor. **HLL:** ARS anchors may be used for a Horizontal Lifeline System (**HLL**) when designed by a qualified person or supplied by **SAS**.

Slope: Maximum Slope 24/12

Installation

Attach anchors to a 2x top chord with a single bolt and stabilized with Teko nails. The anchor shoulder is required to rest onto the top chord as shown at Fig.3 with sheathing installed over the shoulder top as shown at Figs. 5 and 6.

Bolt Under: ARS 2x4 and 2x8 are designed to bolt under the top chord wo/blocking as shown at Fig.3, 4 and 7.

Drill Through: ARS anchors may be attached by drilling through the top chord with a 5/16"d. drill as shown at Fig.2.

Blocking: ARS 2x8 anchors bolted under 2x4 or 2x6 top chords require 16" blocking as shown at Fig.8. The blocking should be secured to the top chord to prevent movement.

Fasteners

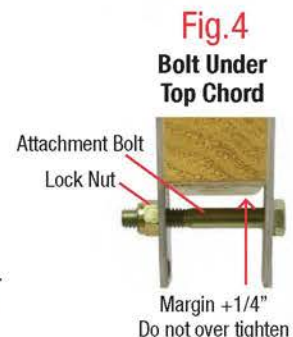
Attachment Bolt: Anchors are supplied with certified **SAS** grade 8 x 5/16" attachment bolt. Do not substitute with other grades or sizes. Stainless steel grade 316 bolts/nuts are available upon request.

Teko Nails: Anchors are supplied with 6 ea. 1-1/4" length Teko nails to stabilize the anchor and prevent movement during use. Use 3 nails in each leg as shown at Fig.2 and 3.

Table 1

Part No.	Anchor Model	430 SST	Fits Top Chord
1022	2x4	14	△ 2x4
1006	2x8	14	△ 2x8
2805	2x8	11	
Tile Roof			
1069	2x8	14	△ 2x8
Flashings:		Roofing	Base
2001- PVC		All types	8x10"
2003- 2.5lb Lead		All types	12x16"
2020 EPDM/Aluminum		Tile	20x20"
2018 EPDM		Metal	8x8"
2007 Stem Cover Black Polymer			

△ Bolt through all top chords



PPE/Connectors/Energy Absorber

Workers using ARS anchors are required to use PPE that is certified to comply with current industrial safety standards. **Connectors:** PPE or SRL's attached to the ARS anchor must have class 1 connectors with 3,600lb (16kN) locking gates. **WARNING!** The use of a personal energy absorber is required.

Framing Requirements

Install onto top chords that are 2x4 or of greater dimension. Framing must be capable of supporting a 5,000lb(2,260kg) load or 2 times the intended fall protection load as specified by OSHA 1926.502(d)(15)(i)(ii) or equal industrial standard. Do not install onto framing that is damaged and do not install directly over spliced top chords or truss web connector plates.

Sheathing

Anchors are designed to be installed onto the top chord with a min. 7/16" plywood or OSB sheathing covering the anchor shoulders as shown at Fig.5. Anchors may be installed over the top of the sheathing but will require drill through attachment and the stem cover flashing may not seat properly over the base flashing due to the increased stem height.

Anchor Evacuation

If anchors are to be evacuated after use a 3x3" opening is required in the sheathing as shown at Fig.6.

Inspection Prior to Use

Anchors should be visually inspected prior to use. Confirm the attachment bolt is either drilled through or bolted under the top chord as shown at Figs 7 and 8.

WARNING! DO NOT USE anchors if any of the following conditions are present:

- Attachment bolts are missing.
- Anchor stem is deformed (See Fig.9).
- Anchor has been subjected to a free fall or other damage.

Removal From Service

Anchors that do not pass inspection, have been damaged or subjected to a free fall, must be removed from service and disposed of in a way that prevents further use.

Anchor Location and Spacing

As shown at Fig.7-8, anchors are installed approx.12" down from the ridge or in other areas of a framed structure. Anchor locations should be specified by a competent or qualified person or consult **SAS** plan service for an engineered system. The maximum spacing w/o/engineering for rafters over 6ft in length is 8ft as shown at Fig.10. Shorter rafter lengths will require closer spacing between anchors.

Fig.5



Fig.6

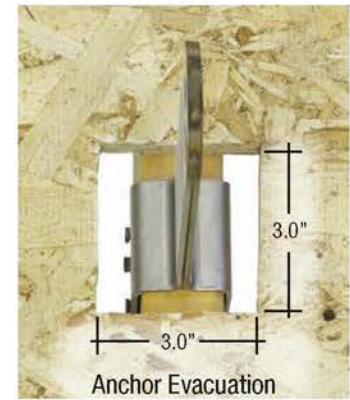


Fig.7

ARS Anchor Position From Ridge

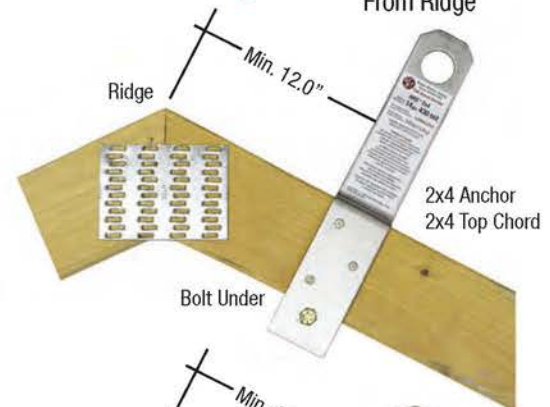


Fig.9



Fig.8

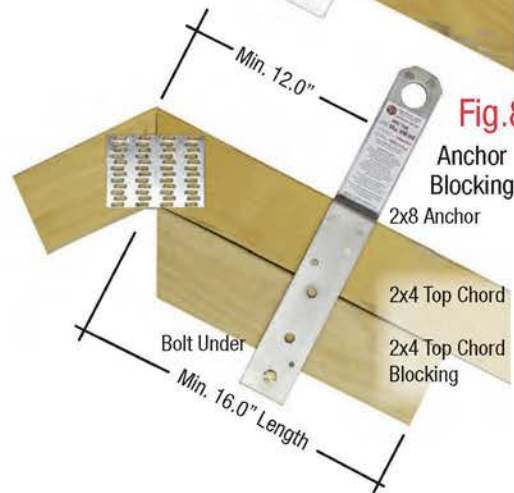
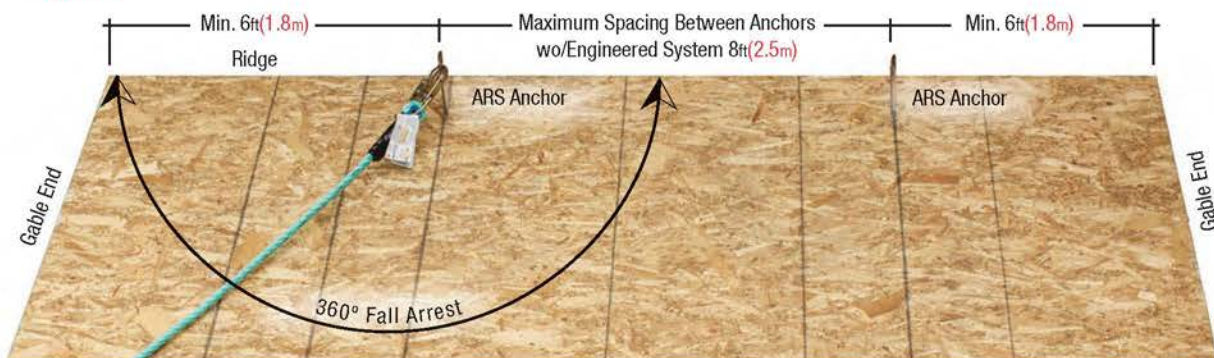


Fig.10





SUPER ANCHOR SAFETY®

Anclaje de Techo Permanente ARS

Manual de Instrucciones/Especificaciones 2018

SPANISH
VERSION

¡ADVERTENCIA AL USUARIO!
Debe leer y utilizar el manual de instrucciones/especificaciones proporcionado en el momento en que se envió este dispositivo. El uso e instalación inadecuados pueden provocar lesiones graves o la muerte. Siga los requisitos de inspección antes de cada uso.

Especificaciones de materiales

Anclaje: Acero inoxidable 430

Calibre 14 u 11 según se especifique.

Rango de temperatura: el acero inoxidable

430 está clasificado para -30°F hasta + 120°F

Resistencia mínima a la tracción: 5,000lb(22.5kN).

Tornillo de fijación: 5/16-18 x 2-1/4" grado 8 con tuerca de bloqueo.

Clavos Teko: 1-1/4" galvanizados

El término **SAS** utilizado en este manual hace referencia a **Super Anchor Safety** (por sus siglas en inglés).

Especificación de uso

Un anclaje permanente de protección contra caídas unido a vigas superiores enmarcadas en madera o acero u otros miembros estructurales. La impermeabilización requiere el uso de un sistema de tapajuntas SAS suministrado de fábrica con calafateo perimetral de base suministrado por el usuario. Ver la Tabla 1.

Especificación de protección contra caídas

Los anclajes ARS están clasificados para Detención de Caídas o Restricción Contra Caídas para una persona con un peso corporal máximo de 340lb(154kg), incluidas las herramientas y equipo. No conecte más de 1 persona o 1 conector a un anclaje ARS. **HLL:** Los anclajes ARS se pueden usar para un Sistema de Cuerda de Salvavidas Horizontal (**HLL**, por sus siglas en inglés) cuando se diseñaron para una persona calificada o sean provistos por **SAS**.

Inclinación: Inclinación Máxima 24/12

Instalación

Fije las 2x partes del ancla a la viga superior utilizando un tornillo y clavos Teko. Se requiere que el soporte del anclaje se apoye sobre la viga superior como se muestra en la Fig.3, con el revestimiento instalado sobre la parte superior del soporte como se muestra en la Fig.5 y 6.

Tornillo inferior: Los ARS 2x4 y 2x8 están diseñados para atornillarse por debajo de la viga superior sin bloquear, como se muestra en la Fig.3, 4 y 7.

Perforación: Los anclajes ARS se pueden unir perforando a través de la viga superior con una broca de diámetro 5/16" como se muestra en la Fig.2.

Bloqueo: Los anclajes ARS 2x8 atornillados debajo de las vigas superiores de 2x4 o 2x6 requieren un bloqueo de 16" como se muestra en la Fig.8. El bloqueo debe asegurarse a la viga superior para evitar el movimiento.

Sujetadores

Tornillo de fijación: Los anclajes se fijan con tornillos 8 x 5/16" certificados con grado **SAS**. No sustituir con otros grados o tamaños. Los tornillos/tuercas de grado 316 de acero inoxidable están disponibles bajo pedido.

Clavos Teko: Los anclajes se clavan con 6 clavos Teko de 1-1/4" de longitud para clavar el anclaje y evitar el movimiento durante el uso. Utilice 3 clavos en cada lado del ancla, tal como se muestra en la Fig.2 y 3.

Tabla 1

Pieza No.	Modelo de Anclaje	430 Calibre SST	Cuerda Superior
1022	2x4	14	△ 2x4
1006	2x8	14	△ 2x8
2805	2x8	11	
Tejado			
1069	2x8	14	△ 2x8
Tapajuntas:		Techo	Base
2001 - PVC		Todos los tipos	8x10"
2003 - 2.5lb Dirige		Todos los tipos	12x16"
2020 EPDM/Aluminio		Teja	20x20"
2018 EPDM		Metal	8x8"
2007 Cubierta Vástago Polímero Negro			

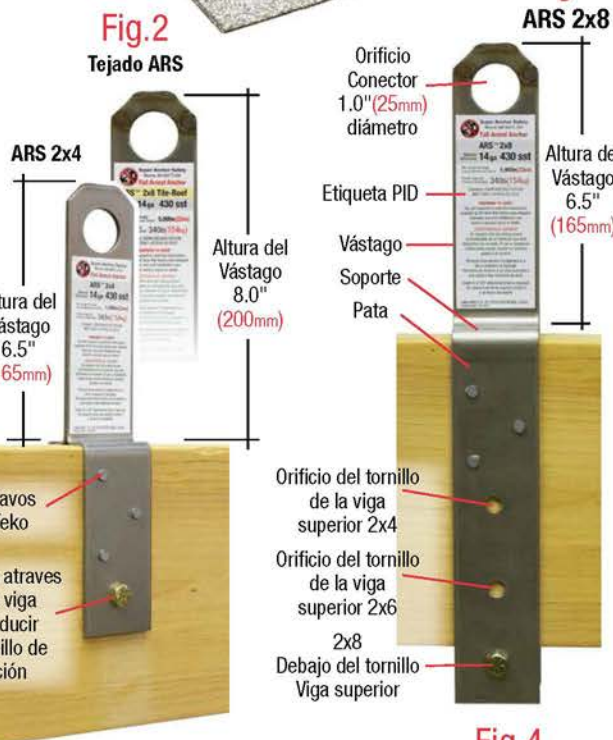
△ Apernar a través de todas las cuerdas superiores

Conformidad: OSHA1926:502/1910.66

Z359.1-07/A10.32-2012

ARS 2x4 Cumple con el Código de Seguridad para su uso en Québec.

Certificado por un miembro de l'Ordre des ingénieurs du Québec.



EPP/Conectores/amortiguador de resistencia

Se requiere que los trabajadores que usan anclajes ARS utilicen Equipo de Protección Personal (PPE, por sus siglas en inglés) que esté certificado para cumplir con las normas actuales de seguridad industrial.

Conectores: los PPE o SRL unidos al anclaje ARS deben tener conectores de clase 1 con gancho trabables de 3,600lb(16kN).

¡ADVERTENCIA! Se requiere el uso de un amortiguador de resistencia personal.



Requisitos para los bastidores

Instalar en las vigas superiores que sean de 2x4 o de mayor dimensión. El bastidor debe ser capaz de soportar una carga de 5,000 lb (22.5 kN) o 2 veces la carga de protección contra caídas prevista según OSHA 1926.502(d)(15)(i)(ii) o una norma industrial equivalente. No instalar sobre un bastidor que esté dañado y no instalarlo directamente sobre las vigas superiores empalmadas o las placas del conector de la red de entramado.

Revestimiento

Los anclajes están diseñados para ser instalados en la viga superior con contrachapado de 7/16" como mínimo o revestimiento de tableros de fibra orientada (OSB, por sus siglas en inglés) cubriendo los soportes del anclaje, tal como se muestra en la Fig.5. Los anclajes pueden instalarse sobre la parte superior del revestimiento, pero requerirán un accesorio de perforación y es posible que el tapajuntas de la cubierta de vástago no se asiente correctamente sobre el protector inferior de la base debido a la altura superior del vástago.

Desalojo del anclaje

Si los anclajes deben desalojarse después del uso, se requiere una abertura de 3x3" (76x76mm) en el revestimiento, como se muestra en la Fig. 6.

Inspección antes del uso

Los anclajes deben inspeccionarse visualmente antes de su uso. Confirme que el tornillo de fijación esté taladrado o atornillado debajo de la viga superior como se muestra en las Fig. 7 y 8.

¡ADVERTENCIA! NO UTILICE los anclajes si se presentan alguna de las siguientes condiciones:

- Ausencia de los tornillos de fijación.
- Si el ancla está deformada (Ver la Fig.9).
- El anclaje ha sido sometido a una caída libre u otro daño.

Retirarlo de servicio

Los anclajes que no pasen la inspección sufran daños o se hayan sometido a una caída libre, deben retirarse del servicio y eliminarse de una forma que se evite su uso posterior.

Ubicación y espacio del anclaje

Tal como se muestra en la Fig.7-8, los anclajes se instalan aproximadamente 12" (300mm) hacia abajo desde el borde o en otras áreas de una estructura con bastidor. Las ubicaciones de anclaje deben ser definidas por una persona competente o calificada o consultar al servicio del plan **SAS** con respecto a un sistema diseñado. El espacio máximo sin ingeniería para travesaños superiores a los 6 pies (1.8mm) de largo es de 8 pies (2.4mm), como se muestra en la Fig.10. Las longitudes del travesaño es más corto requerirán un espacio más cercano entre los anclajes.

Fig.5



Fig.6

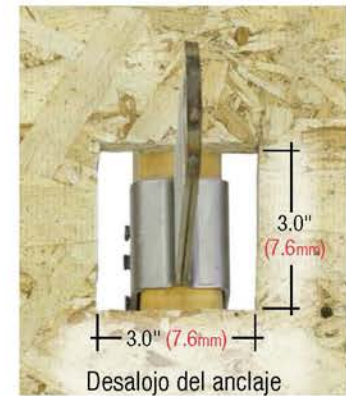


Fig.7

Posición del anclaje ARS desde el travesaño

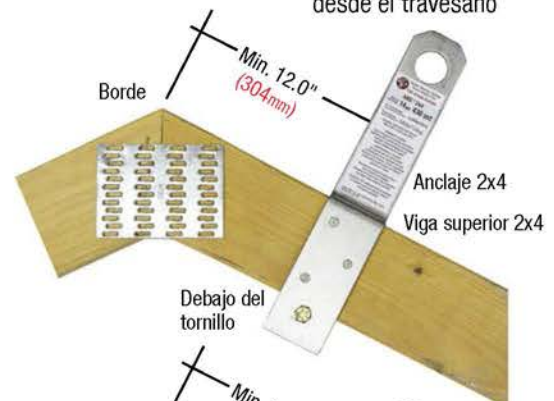


Fig.9



Fig.8

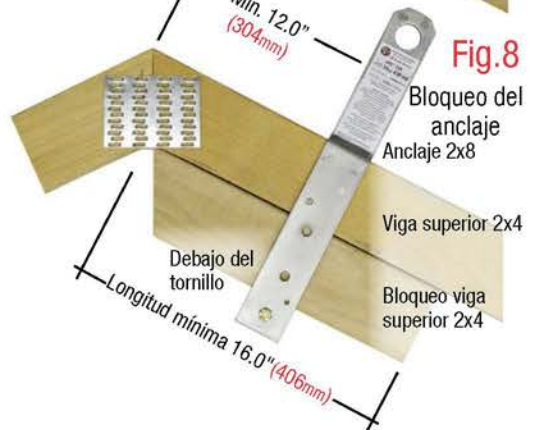
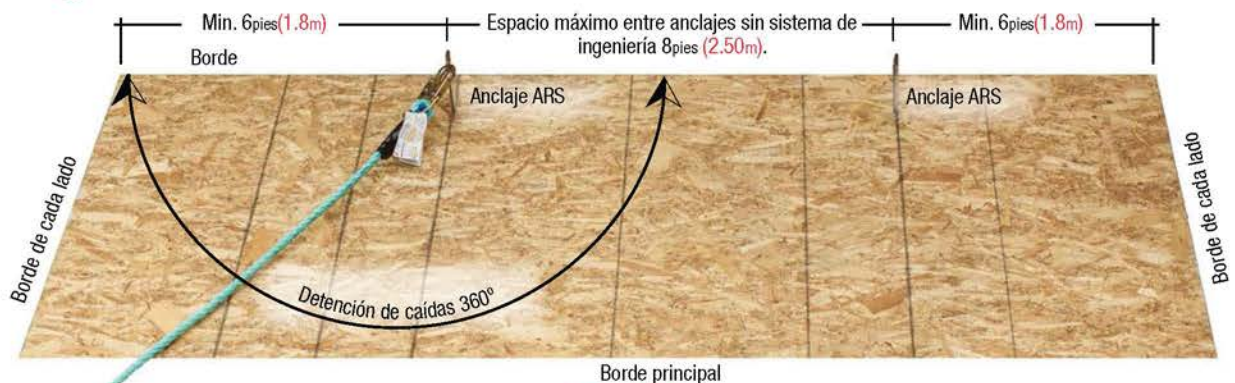


Fig.10





SUPER ANCHOR SAFETY®

SAS-Hinge-2™ No. 3013-D/3013-S Adjustable Temporary Roof Anchor Instruction/Specification Manual 2024

ENGLISH
VERSION

!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.

Specification of Use:

One person use for Personal Fall Arrest/
Fall Restraint including tools and equipment.

Max. User Wt: 310lb (140kg)

Max. Free Fall: 6ft (1.8m)

Temporary anchor only. Remove after use.

Horizontal Lifelines: Requires to be engineered by a "competent" or "qualified"* person. See Hinge-2 No.1321 HLL manual. *OSHA definition.

Anchor Specifications:

Min. Tensile Strength: 5,000lb (22.5kN).

Material Specification:

Hinge-2 No.3013-D

11ga. steel w/ forged D-ring Dacromet coated.

Hinge-2 No.3013-S

11ga. 430sst w/ 304sst forged D-ring.

Personal Protective Equipment (PPE)

Required to use an OSHA, ANSI or CSA compliant personal energy absorber with a max. arrest force of 1,800lb

Non-Specified Use

Do not use for window washing anchorage, work positioning, or scaffolding tie-off. Do not use for HLL when attached with nails.

Self Retracting Lifelines (SRL)

May be used to anchor an SRL with WS 3.0 hex head screws. See Fig. 4b/5b

Compliance: OSHA 1926.502
ANSI Z359.1-07

X = Inspection references.
SAS = Super Anchor Safety

Slope Specification

Max. slope 24/12 with WS 3.0" wood screws.
Max slope w/ 16d nails and #12 wood screws is 12/12.

Connectors

Snaphooks and carabiners must have 3600lb (16kN) gate strengths and comply with current ANSI/CSA standards.

Direction of Load

Fall Arrest: Max. degree of angle off vertical center is 30° as shown at Fig. 6.
Fall Restraint: 360° and not subject to a free fall

Framing Strength Requirement

The wood structure to which an anchorage device is attached must be capable of sustaining *2 times the intended fall protection load or 5,000lb without engineering. Min. 2x4 top chord with min. 7/16" OSB sheathing.

WARNING! Do not attach directly to a top chord without sheathing installed.

Fig. 1

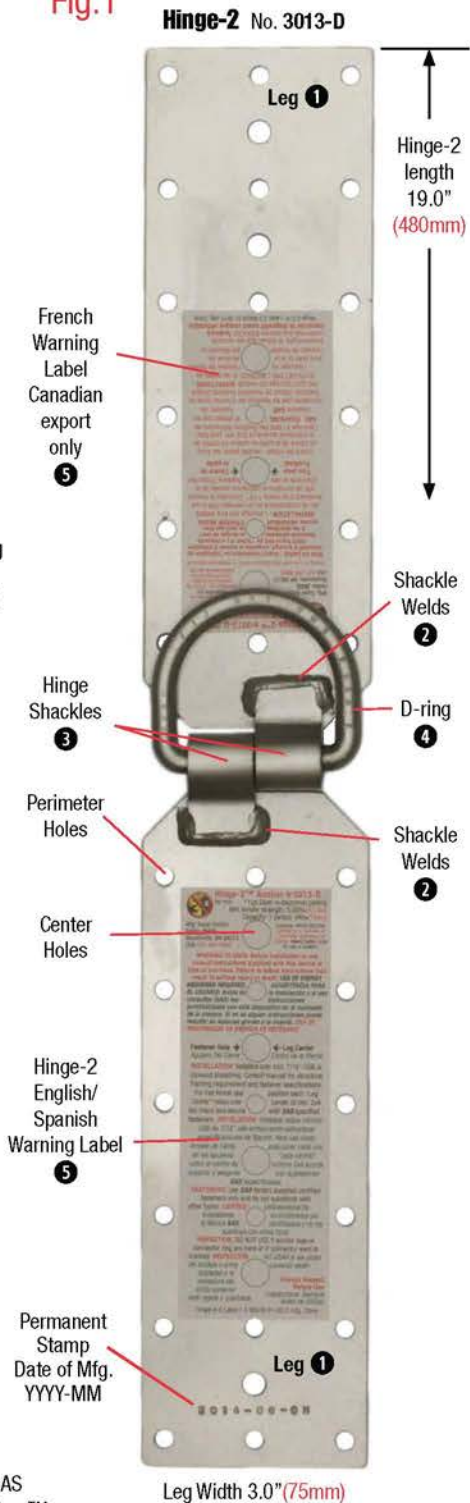


Fig. 3

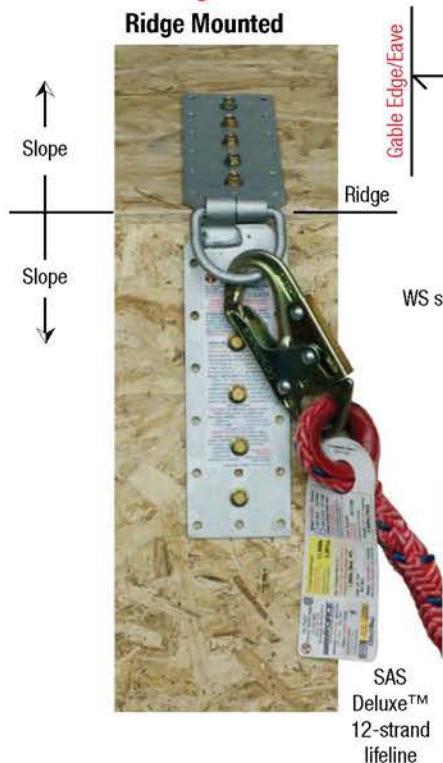
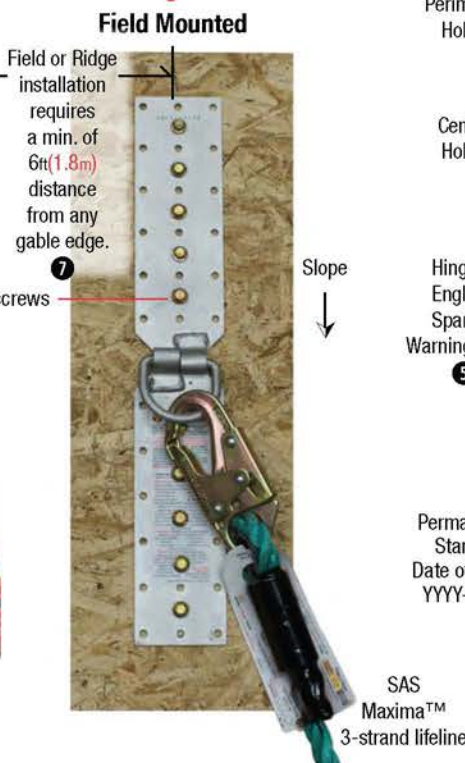


Fig. 2



Fastening Specifications

Table 1 and Figs. 4 specify the required number and type of fasteners for each anchor leg. **WARNING!** Use only SAS supplied fasteners. **DO NOT** substitute with other types. **Torque Setting:** **WARNING!** Do not overtighten screws to prevent damage to the fasteners. Flush mount screws to anchor leg surface with the minimum torque necessary.

Table 1: Fastener Specifications/Strength Rating

See Fig.	Fastener Type	No. Required Each Leg	Total Fasteners	Strength Rating
4a	▲ 16d Duplex Nail	6	12	5,000lb
4b	▲ WS 3.0" Screw	5	10	

▲ Do not reuse fasteners.

Fig. 4a



12-16d Duplex Nails: 6 each leg center row. Use small diam. holes only

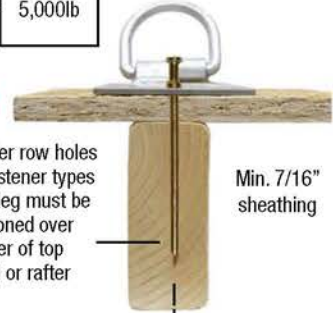
4b



10-WS 3.0" Hex Head screws: 5 each leg Use large diameter holes only

Fig. 5a

Use center row holes for all fastener types Anchor leg must be positioned over center of top chord or rafter



Min. 7/16" sheathing

WARNING! DO NOT USE LARGE FASTENER HOLES FOR DUPLEX NAILS

5b



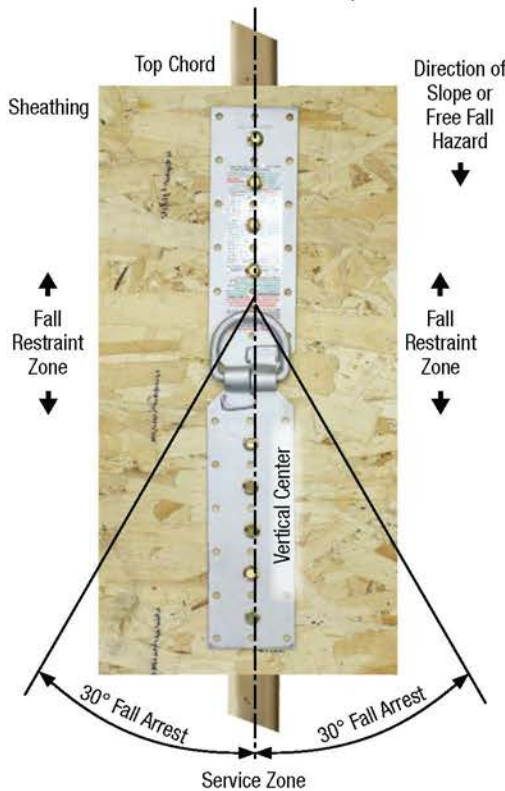
Nails/Screws min. fastener penetration 2.0"

WS 3.0 wood screw shown w/2x4 top chord.

Fig. 6

Service Zones

Fall Arrest: Max. angle to right or left off vertical center 30°. **Fall Restraint:** 360° with no free fall hazard exposure.



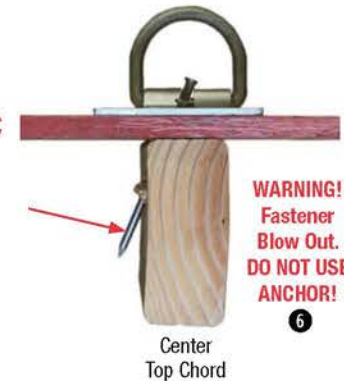
Fastener Penetration

Fasteners must penetrate into the top chord a min of 2.0" as shown at Fig. 5b. For thicker substrates remove materials from the substrate or use longer screws. **WS screw max. length 3.5"** Use Head Lock screws if longer lengths are required.

Fastener Inspection

After installation and prior to each use, inspect the framing underside at the anchor location. If blow outs are visible remove the anchor and re-install at least 6.0" away from the original installation.

5c



WARNING! Fastener Blow Out. **DO NOT USE ANCHOR!**

6

Inspect before each use. Remove from service if subjected to a free fall or if any of the following conditions are present:

ACTION REQUIRED: ☒=Remove ☑=Repair

Hinge-2 Anchor Fig. 1

- 1 Legs are cut, bent or deformed. ☒
 - 2 Hinge shackle welds are cracked. ☒
 - 3 Shackles are deformed. ☒
 - 4 D-ring is cut or deformed. ☒
 - 5 Warning labels are missing or not legible. ☑
- Request replacement labels.

Framing

- 6 Check underside of framing for fastener blow outs. Fig. 5c ☒
- ☑ Re-install fasteners per Fig. 5a-5b.

Rigging Fig. 3

- 7 Anchors are installed less than 6ft (1.8m) from gable ends. ☑
- Move anchor location.

Replacement Fastener Packs

Fastener Type	Part No.	No. Pcs.	Driver No.
16d Duplex	2012-A	36	Hammer
WS 3.0"	2084-3.0	25	3/8" Hex

Vertical Walls

Require installation with WS screws only. Do not use nails.

ADVISORY! All equipment removed from service should be tagged and disposed of in a way that prevents further use.



SUPER ANCHOR SAFETY®

SAS-Hinge-2™ No. 3013-D/3013-S

Ancla Ajustable de Uso Provisional

Manual de Instrucciones/Especificaciones 2024

¡ADVERTENCIA AL USUARIO!

Usted debe leer y usar el manual de instrucciones y especificaciones despachado junto con este dispositivo. El uso o instalación incorrecta, pueden resultar en heridas serias o la muerte. Siga los requerimientos de inspección.

SPANISH
VERSION

Especificaciones de Empleo:

Para ser usado con un sistema Personal Contra Caídas/ Restricción de Caídas por una sola persona incluyendo herramientas y equipos.

Peso Máximo del Usuario: 310lb(140kg)

Caída Libre máxima: 6ft (1.8m)

Ancla solamente para uso provisional. Retírala después de emplearla.

Cuerdas Salvavidas Horizontales: Requiere ser calculada por una persona "competente o calificada"*. Consultar el manual de Hinge-2, HLL No1321.

*Definición de la OSHA.

Especificaciones del Ancla:

Resistencia Mínima a la Tracción: 5,000lb(22.5kN).

Especificaciones del material:

Hinge-2 No.3013-D

Acero Calibre 11 recubierto en Dicromato con Anillo-D forjado.

Hinge-2 No.3013-S

Acero Inoxidable #430 Calibre 11 con Anillo-D forjado.

Equipo de Protección Personal (PPE)

Se requiere emplear un amortiguador de energía personal con resistencia máxima a la caída de 1,800lb que cumpla con las normas de OSHA, ANSI o CSA.

Uso No Indicado

No emplearla como anclaje para el lavado de ventanas, posicionamiento de trabajo o para amarrar de andamios. Si es asegurada con clavos no emplearla en sistemas de cuerda salvavidas horizontales (HLL).

Cuerdas Salvavidas Auto-Retractiles (SRL)

Puede ser empleada para el anclaje de SRL si se asegura con tornillos de cabeza hexagonal para madera WS 3.0. Ver Fig.4b/5b

Cumple con las normas OSHA1926.502

ANSI Z359.1-07

⊗ = Puntos de inspección.

SAS= Super Anchor Safety

Especificación de la Pendiente

Pendiente máxima con tornillos para madera WS 3.0 es 24/12.

Pendiente máxima con clavos 16d o tornillos #12 para madera es 12/12.

Conectores

Los ganchos de seguridad y mosquetones deben tener compuertas con resistencia de 3600lb (16kN) y cumplir con las normas vigentes de ANSI/CSA.

Orientación de la Carga

Detención de Caída: el ángulo máximo de separación al centro vertical debe ser de 30° como se muestra en la Fig.6.

Restricción de caída: 360 grados y no haber exposición a caída libre.

Resistencia Requerida del Armazón de Madera

La estructura de madera a la cual instale el dispositivo de anclaje debe ser capaz de soportar *2 veces la carga a proteger contra caídas o 5,000lb sin estimación. Emplear vigas de 2x4 como mínimo, con recubrimiento en madera OSB de 7/16" como mínimo.

¡ADVERTENCIA! No sujetarla directamente a una viga superior que no tenga instalado el recubrimiento.

Fig.1

Hinge-2 No. 3013-D

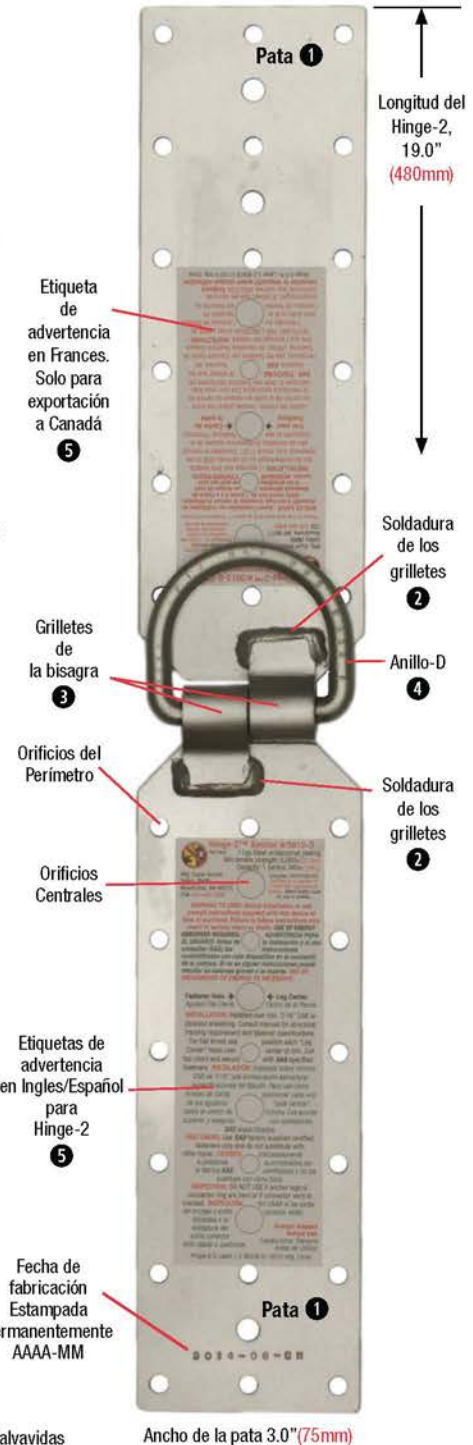


Fig.3

Montaje Sobre Caballete

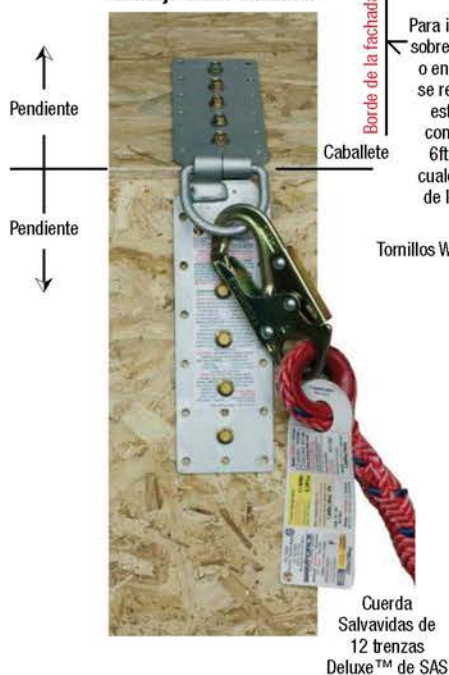


Fig.2

Montaje Sobre Cubierta



Especificación de los Sujetadores

La tabla 1 y las Figs. 4 especifican la cantidad y tipo de sujetadores a poner en cada pata de un ancla. **¡ADVERTENCIA!** Solamente emplee los sujetadores suministrados por SAS. NO los substituya con otro tipo. **Ajuste de Torque:** **¡ADVERTENCIA!** Para prevenir causar daño a los sujetadores, no los sobre ajuste. Montar los tornillos al ras de la pata del ancla empleando el mínimo torque requerido.

Tabla 1: Especificaciones de los Sujetadores/Rango de Resistencia

Ver Fig.	Tipo de Sujetador	Cantidad Requerida en Cada Pata	Total de Sujetadores	Rango de Resistencia
4a	▲ Clavos Dúplex 16d	6	12	5,000lb
4b	▲ Tornillos WS 3.0"	5	10	

▲ No Reutilizar los Sujetadores.

Fig.4a



12 Clavos Duplex 16d: 6 por c/ pata en la fila central. Emplear solamente los orificios de diámetro pequeño.

4b



10 Tornillos de cabeza hexagonal WS 3.0": 5 en cada pata. Emplear solamente los orificios de diámetro grande.

Fig.5a



¡ADVERTENCIA!
NO USAR CLAVOS DUPLEX EN LOS ORIFICIOS GRANDES PARA SUJETADORES

5b



Penetración de los Sujetadores
Los sujetadores deben penetrar mínimo 2" dentro de la viga superior como se muestra en la Fig.5b. Para substratos mas gruesos, retirar materiales del substrato o emplear tornillos más largos. La longitud máxima de los tornillos WS es de 3.5", si se requiere emplear tornillos más largos usar los tornillos tipo Head Loc.

5c



Revisarlas antes de cada uso. Retirarlas del servicio si han estado expuestas a una caída libre o si alguna de las siguientes condiciones es observable:

ACCION REQUERIDA: ☒=Retirar ☑=Reparar

Ancla Hinge-2 Fig.1

- 1 Alguna de las patas está cortada, doblada o deformada. ☒
- 2 La soldadura de los grilletes de la bisagra están agrietados. ☒
- 3 Los grilletes están deformados. ☒
- 4 El Anillo-D tiene cortes o esta deformado. ☒
- 5 Faltan las etiquetas de advertencia o no son legibles. ☑ Solicite etiquetas de reemplazo.

Armazon

- 6 Revisar las cerchas por debajo por si hay sujetadores salidos/desviados. Fig.5c ☒
☑ Reinstale los sujetadores de acuerdo a la Fig.5a-5b.

Montaje: Fig.3

- 7 Las anclas están instaladas a menos de 6ft(1.8m) de los bordes laterales del techo. ☑ Mover el ancla a otro sitio.

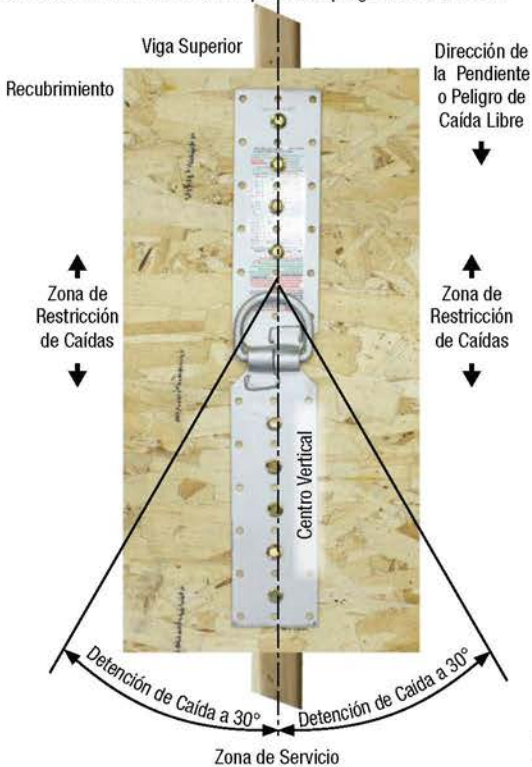
¡ADVERTENCIA! Todo equipo retirado del servicio debe ser etiquetado y desechado de tal manera que evite ser usado nuevamente.

Fig.6

Zonas de Servicio

Detención de Caída: máximo a un ángulo de 30° a la derecha o a la izquierda de centro vertical.

Retención de Caída: 360° sin exposición a peligros de caída libre.



Paquetes de Reemplazo de Sujetadores

Tipo de Sujetador	Parte No.	Cant. de Piezas	Herramienta p/Instalación
Clavos Dúplex 16d	2012-A	36	Martillo
Tornillo WS 3.0"	2084-3.0	25	3/8" Hex

Paredes Verticales

Se deben instalar solamente con tornillos WS. No emplear clavos.



SUPER ANCHOR SAFETY®

RS Series Anchors Instruction/Specification Manual 06-2021

ENGLISH
VERSION

!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 Specifications

Anchor Leg: 430 Stainless Steel
RS-10/20/Retro Fit: 2 Layers 20ga.
D-Ring: Stamped Dacromet™ or yellow zinc plated steel.
Fastener Holes: 3/16" d.
Anchor Leg/D-Ring Min. Tensile Strength: 5,000lb(22.5kN).
Stamp Marks: DOM Y/M and mfg.

Certifications

Compliance: OSHA1926.502/1910.66
 ANSI Z359.1-07/A10.32-2012
Canadian 3rd Party Engineering:
 Certified by a member of
 l'Ordre des ingénieurs du Québec.

Specified Use

Fall arrest or fall restraint PPE anchorage.
 Permanent or temporary installation on wood framed structures.
 May be used on metal decking min. of 24ga. w/SAS engineering.
User Specifications: 1 person max user wt. 340lb(154kg).
Free Fall: Max length 6ft(1.8m). **Max. Arrest force:** 1,800lb(8kN).
 Energy Absorber required specified for the user's weight.

Non-Specified Use

Do not use for window washing, suspended work or Horizontal Lifeline Systems. Do not attach to the underside or side of a top chord or framing.

Fastener Specifications

Supplied with 3.0" Spiral SST nails. Optional SAS fasteners (see Table 1).
CAUTION! DO NOT substitute with other types of fasteners unless they have been engineered by a qualified person or supplied by SAS.
Screws: Use the lowest torque setting to flush mount with leg surface.
WARNING! Always use eye protection when installing fasteners.
 DO NOT install screws by hammering. DO NOT reuse fasteners specified in this manual.

Fastener/Anchor Inspection Prior to Use

At the time of first installation, check the underside of the sheathing at anchor location and inspect for blow outs as shown at Fig. 4. Before using the anchor, always confirm it has been correctly installed. Remove from service if any of the following conditions are present:

- 1) Deformation of D-Ring or Shackle.
- 2) Missing fasteners (see Table 1-A).
- 3) Fastener Blow-outs (see Fig. 4).
- 4) Subjected to a free fall.

Anchor Installation over Wood Framing

Framing must be capable of supporting 5,000lb(22.5kN) or 2 times the intended fall protection load. Install over min. 2x4 top chord with 7/16" or thicker OSB or Plywood sheathing that is structurally sound and free of defects or damage. Position leg over top chord center and install leg fasteners as shown at Fig. 3. Install leg off-center fasteners at a slight angle toward the rafter center Fig. 3.1.

Defective anchor installations must be removed and installed at a different location using new fasteners. **WARNING! DO NOT install over open framing without sheathing.**

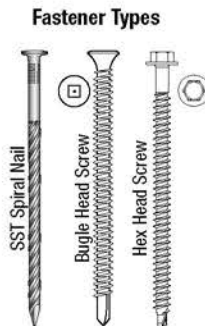
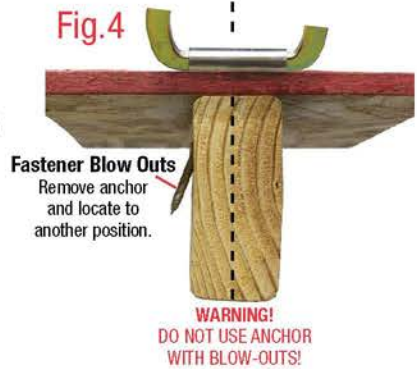
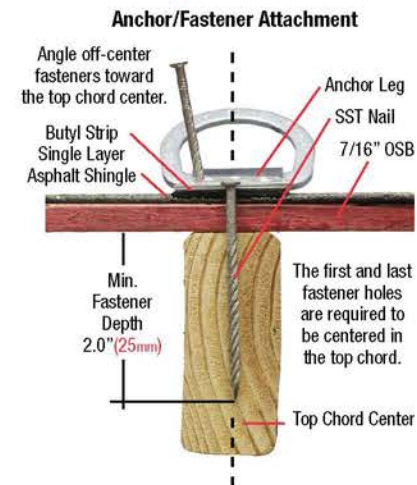
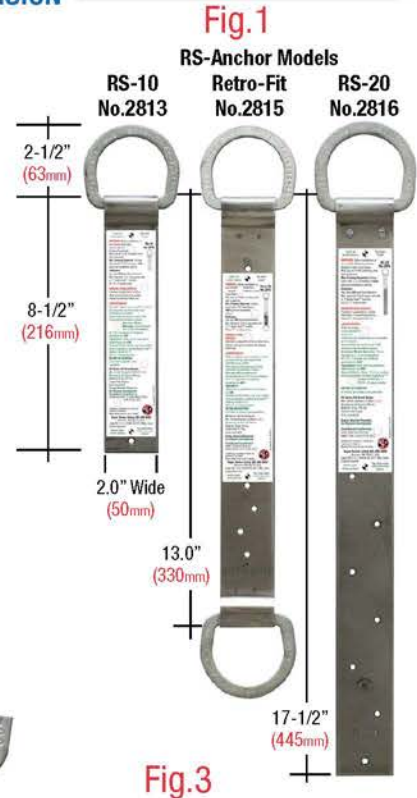
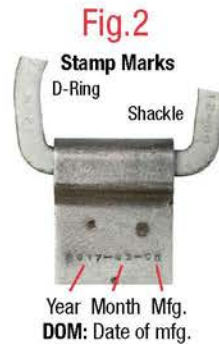
Table 1 SAS Supplied Fasteners/Service Load

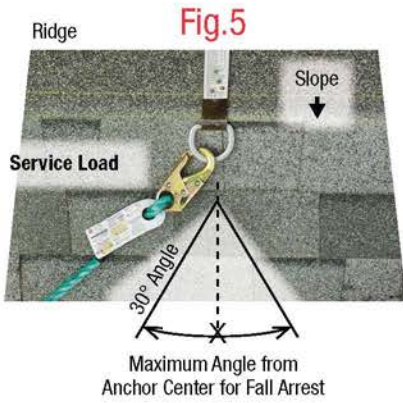
Fasteners			▲Max Service Load Applied	
Part No.	Min.	Types	0°-30° Angle	Over 30°
RS-10	6	3.0" SST Spiral Nails *3.0" Screws HH/BH	3,600lb(16kN) See Fig.5	Fall Restraint Use Only! No risk of Free Fall
Retro-Fit	8			
RS-20	8			

*HH=12ga Hex Head / BH=Bugle Head

▲SAS energy absorber MAF = 1,800lb(8kN) + safety factor x2.

Other mfg. energy absorbers may be used when compatibility is ensured by a qualified or competent person.





Direction of Load

Fall Arrest: When exposed to fall hazards do not exceed a 30° angle from the anchors parallel to slope position as shown at Fig.5,10a. Do not use on slopes greater than 8/12.

Fall Restraint: No exposure to a free fall, sliding fall, or static loading of the anchor and at least 6ft from any gable edge, perimeter edge or other fall hazard. See Fig. 7, 13.

Steep Slope Definition: OSHA 3146-05R 2015: slopes greater than 4/12. RS series anchors are not recommended for work that requires prolonged tension on the anchor and must not be used for work positioning.

Reverse and Side Load Warning!

As shown at Figs. 6, and 10b, in the event of a fall, the anchor fasteners may unzip(pull out) resulting in a failure to arrest a fall. Do not side load when exposed to a fall hazard, static loading, or slopes over 8/12.

Anchor Location/Spacing

The maximum spacing between anchors for a non-engineered system is 8ft(2.4m). Install anchors at the ridge or in the field at a minimum of 6ft from gable edges or openings in the roof or work surface as shown at Fig.13. Do not install over hips. Engineered spacing between anchors is calculated using the free fall distance, rafter length, and 30° service load. Consult SAS anchor location plan service for an engineered system. **User Engineering:** End users may engineer their own anchor spacing specifications when performed by a qualified or competent person. Documentation of the engineering is required.

Vertical Surfaces: Sheathing must be in place and the wall fully braced to support the intended fall protection load. Use only RS-20 anchors attached with Bugle or Hex Head screws.

Permanent Installation over Roofing Membrane

Use SAS butyl strips, a user supplied waterproof membrane or a compatible caulking between the anchor leg underside and the roofing material surface as shown at Fig.3. They are recommended to cover the fastener heads and anchor leg sides for low slope, high wind areas or where buildups of surface debris may occur.

Re-Roofing: Table 1 fasteners are specified for a single layer of roofing material. The min. fastener depth penetration is 2.0”(25mm) as shown at Fig.4. Longer length screws may be required for heavier materials or multiple layers. Contact SAS for longer fastener specifications.

RS-20 Specified for Tile Roofing

Install anchors on each side of the roof at the ridge or field. Conform the anchor leg to the tile profile as shown at Fig.11. Plan the D-ring exposure as shown at Fig.12 before installing the anchor. Use the 8 fastener holes at the top of the anchor leg.

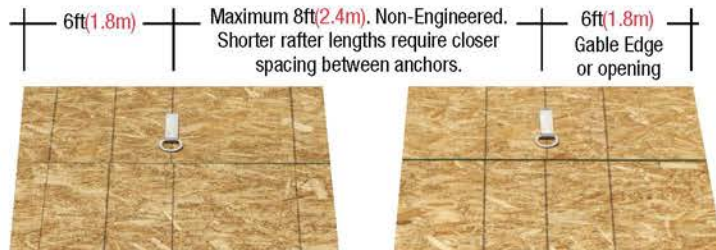


Fig.13

Anchor Spacing

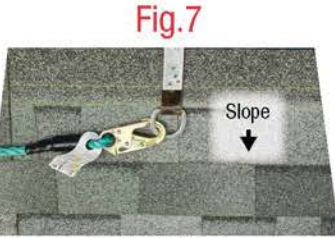


Fig.7



Fig.10a



Fig.10b



Conform Anchor Leg to the tile profile.



D-Ring exposure

Note: It may be necessary to remove lugs or weather blocks from the underside of the succeeding tile course so it fits properly over the anchor leg at the head lap. Caulking may be necessary to provide protection against wind driven rain, snow or dust.



SUPER ANCHOR SAFETY®

Anclas Series RS

SPANISH VERSION

Manual de Instrucciones/Especificaciones 06-2021

¡ADVERTENCIA AL USUARIO!
Se requiere leer y utilizar el manual de Instrucciones/Especificaciones proveído en el momento de envío de este aparato. El uso e instalación inadecuados puede resultar en lesiones serias o la muerte. Seguir los requisitos de Inspección antes de cada uso.

Especificaciones de los Materiales:

Pata del Ancla: Acero Inoxidable 430
RS-10/20/Retro Fit : Doble lamina calibre 20
Anillo-D: Acero estampado electro plateado en Dacromet™ o en zinc amarillo
Agujeros Para los Sujetadores: 3/16" diámetro
Resistencia mínima a la tracción de la pata/ anillo- D del ancla: 5,000lb(22.5kN).

Uso Especifico: Anclaje de EPP para detención de caída o restricción de caídas. Instalación permanente o temporal en estructuras de madera. Pueden ser utilizadas en cubiertas metálicas con lámina calibre mínimo 24, con el diseño proporcionado por SAS.

Especificaciones del Usuario: 1 persona; usuario con peso máximo de 340lb(154kg). **Caída Libre:** Longitud Máxima 6ft(1.8m). **Fuerza de Detención Máxima:** 1,800lb(8kN). El usuario debe emplear un amortiguador de energía especificado de acuerdo a su peso.

Uso No Especificado:

No utilizar para lavado de ventanas, trabajo suspendido o Sistemas de Cuerdas Salvavidas Horizontales. En armazones de madera ,no instalarlas sobre la cara inferior o lateral de una viga superior.

Especificaciones de los Sujetadores:

Se suministra con clavos de acero inoxidable tipo espiral de 3.0". Para sujetadores opcionales de SAS, ver la Tabla 1.

¡PRECAUCION! NO Sustituir con otro tipo de sujetadores a menos que hayan sido especificados por una persona calificada, o suministrados por SAS.

Tornillos: Usar el ajuste de torque más bajo del taladro para montarlos al ras con la superficie de la pata del ancla.

¡ADVERTENCIA! Siempre utilizar protección para los ojos cuando se instalen los sujetadores. No instalar los tornillos martillándolos. NO REUTILIZAR los sujetadores especificados en este manual.

Inspección de Sujetadores/Anclajes Antes de Usarlos:

Después de instalar un ancla, revisar la parte inferior de la cubierta del techo donde se instaló el ancla y revisar que no hayan clavos salidos, como se muestra en la Fig.4. Antes de utilizar un ancla, asegurarse siempre que esta haya sido instalada correctamente. Retirarla del servicio si cualquiera de las siguientes condiciones se presenta:

- 1) Deformación del Anillo-D o el Grillete.
- 2) Faltan sujetadores. Ver la Tabla 1-A
- 3) Sujetadores salidos de la viga. Ver la Fig.4.
- 4) Estuvo expuesta a una caída libre.

Instalación de Anclas Sobre Armazones de Madera:

El armazón debe ser capaz de soportar 5,000lb (22.5kN) o 2 veces la carga proyectada a proteger contra caídas. Instalarla sobre una viga de 2x4 mínimo, recubierta con madera tipo OSB o contrachapada de 7/16" o más gruesa, que sea estructuralmente segura y libre de defectos o daños. Centrar la pata del ancla sobre el centro de la viga superior e instalar los sujetadores centrados del ancla como se muestra en la Fig.3. Luego instale los sujetadores excéntricos con una leve inclinación apuntando al centro de la viga. Si un ancla queda mal instalada, deberá retirarla y cambiarla de lugar empleando sujetadores nuevos.

¡ADVERTENCIA! NO instalarlas sobre armazones abiertas, que no tengan recubrimiento.

Tabla 1 Sujetadores Suministrados por SAS / Carga de Trabajo

Sujetadores			▲Carga Máxima de Trabajo Aplicada	
No. de Parte	Mínimo	Tipos	Angulo 0°-30°	Mas de 30°
RS-10	6	Clavos de Espiral en A. Inox. de 3.0"	3,600lb(16kN) Ver Fig.5	Restricción De Caída No Para Caída Libre
Retro-Fit	8	*Tornillos de 3.0" Cabeza Hexagonal o de Cometa		
RS-20	8			

*HH=12ga Hex Head / BH=Bugle Head

▲ Amortiguador de Energía SAS E-4 Fuerza Máxima Aplicada = 1,800lb(8kN) + factor de seguridad x2. Se pueden emplear amortiguadores de energía de otros fabricantes si la compatibilidad es garantizada por una persona calificada o competente.

Marcas Estampadas: Fecha de Fabricación Año/ Mes y Fabricante.

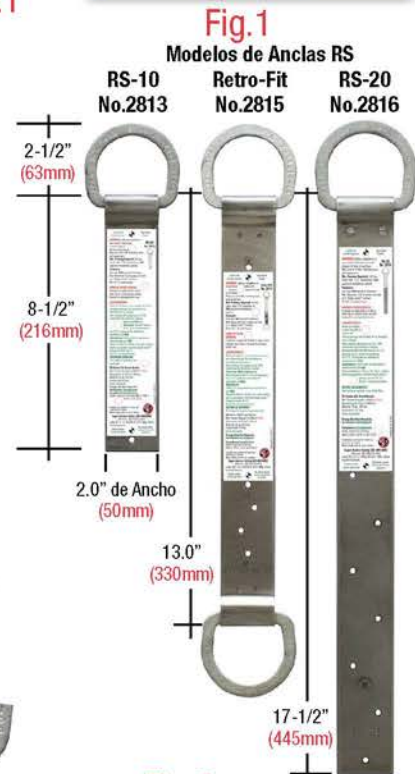
Certificaciones:

Cumple con las normas: OSHA1926.502/1910.66
ANSI: Z359.1-07/A10.32-2012

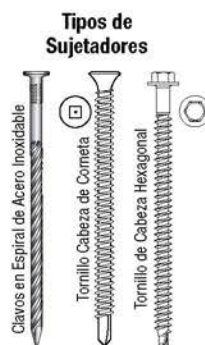
Ingeniería canadiense de terceros:
Certificado por un miembro de l'Ordre des ingénieurs du Québec



Fig.3.1 Puntos Para los Sujetadores



¡ADVERTENCIA!
¡NO UTILIZAR ANCLAS CON SUJETADORES QUE ESTEN SALIDOS!





Dirección de la Carga:

Detención de Caídas: Cuando haya exposición a peligros de caída, no exceder un ángulo de 30° con relación a las anclas instaladas en posición paralela a la pendiente como se muestra en la Fig. 5, 10a. No emplearlas en pendientes mayores a 8/12.

Restricción de Caídas: No debe haber ninguna exposición a caídas libres, caídas deslizantes o cargas inmóviles sobre el ancla y las anclas deben estar por lo menos a 6 pies de distancia del borde de caballetes, borde de los aleros o cualquier otro peligro de caída. Ver las Fig. 7, 13.

Definición de Pendiente Pronunciada: Norma OSHA 3146-05R 2015: pendientes mayores a 4/12. Las anclas serie RS no son recomendadas para trabajos que requieren tensión aplicada prolongada sobre un ancla y no deben ser empleadas para posicionamiento de trabajo.

¡Advertencia por Carga Inversa y Lateral! Como se muestra en las Figuras 6 y 10b, en caso de una caída los sujetadores del ancla pueden arrancarse (zafarse), resultando en una falla en la detención de una caída. No cargarlas lateralmente cuando haya exposición a un peligro de caída, carga inmóvil, o en pendientes de más de 8/12.

Localización y Espaciamiento de Anclas:

El espaciamiento máximo entre anclas, para un sistema sin diseño específico, es de 8 pies (2.4m). Instalar las anclas en la cresta de un techo o en el campo del techo manteniendo una distancia mínima de 6 pies de los bordes de caballetes, de perforaciones en el techo o del área de trabajo, como se muestra en la Fig. 13. No instalarlas sobre las caderas de un techo. Para diseños específicos, el espaciamiento entre anclas es calculado utilizando la distancia de caída libre, longitud de las vigas, y respetando el ángulo de 30° para el servicio de carga. Para diseños específicos de ubicación de anclajes, consultar con SAS para que le suministre un plan calculado de acuerdo a sus necesidades.

Diseño por parte del usuario: Los usuarios finales pueden realizar sus propios cálculos para distanciamiento de anclas, siempre y cuando sean diseñados por una persona calificada o competente. Se requiere producir los documentos del diseño. **Superficies Verticales:** El revestimiento del techo debe estar instalado y las paredes deben estar completamente reforzadas para soportar la carga de protección de caídas estimada. Utilizar solamente anclas RS-20, las cuales deben ser sujetadas con tornillos de cabeza Hexagonal o de Corneta.

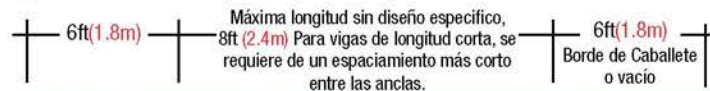
Instalación Permanente sobre Membranas de Techos:

Emplee tiras de butilo de SAS, membranas impermeabilizantes suministrada por otros o goma sellante para poner entre la parte inferior del ancla y la superficie de los materiales del techo como se muestra en la Fig. 3. Se recomienda cubrir las cabezas de los sujetadores y los lados de las patas de las anclas en techos con pendientes bajas, en áreas de vientos fuertes o donde pueda ocurrir acumulación de escombros sobre la superficie.

Renovación de Techos: Los sujetadores en la Tabla 1, están especificados para capas sencillas de materiales para techar. La profundidad mínima de penetración de los sujetadores es de 2.0" (25mm) como se muestra en la Fig. 4. Tornillos de mayor longitud pueden ser necesarios para materiales más pesados o con capas múltiples. Contactar a SAS para especificaciones de sujetadores más largos.

Las Anclas RS-20 Están Especificadas Para Techos de Tejas:

Instalar las anclas sobre la cresta a cada lado del techo o en la superficie de campo del techo. Amoldar la pata del ancla a la forma de la teja como se muestra en la Fig. 11. Antes de instalar el ancla, defina cual va a ser la exposición del anillo-D como se muestra en la Fig. 12. Utilizar los 8 agujeros para sujetadores ubicados en la parte superior de la pata del ancla.



Amoldar la pata del ancla a la forma de la teja.



Exposición del Anillo-D

NOTA: puede ser necesario tener que quitar las lengüetas o rebordes contra intemperie que estén debajo de la hilera de tejas anterior, de modo que estas encajen correctamente con el extremo de la pata del ancla. Puede ser necesario poner goma impermeabilizante para proteger que la lluvia, la nieve o el polvo



SUPER ANCHOR SAFETY®



Temporary Roof Anchor

ENGLISH VERSION

!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.

Instruction/Specification Manual 2023

Material Specifications

14gauge zinc plated steel.
7/8" (11mm) d. connector hole
Min. strength 5,000lb (22kN)
SAS = Super Anchor Safety
**"Competent Person" see
OSHA definition

Specified Use

- Single use temporary PPE anchor
 - Max. slope 12/12
 - Fall arrest or fall restraint
 - Use for one person with a max. body weight of 310lb (140kg) including tools and equipment.
- Personal energy absorber required when attached to this anchor.

Compliance:

ANSI Z359.18 Type D
CSA Z339.15 Type D
OSHA 1926.502

Non-Specified Use

- SRL's used for fall arrest or leading edge
- HLL systems and vertical walls
- Permanent installations.
- Work positioning

Work Positioning Definition OSHA 1926.502(e)

A device, system, or PPE that is rigged to allow a worker to be supported on an elevated vertical surface, such as a wall, and work with both hands free.

Adjusting Anchor Legs

Anchor legs are pre-formed to 25°. Adjust anchor legs to conform to the slope so that both legs contact the sheathing surface evenly.

Sheathing and Framing Installation

Required to be installed over 2x4 or larger top chords with a min. 7/16" sheathing as shown at Fig.1. Framing must be capable of supporting 5,000lb (22kN) or 2 times the intended fall protection load as specified by OSHA 1926.502 **WARNING!** Do not install onto framing that is damaged, or directly over top chord splices. For recover projects, remove roofing materials in order to locate the top chord center.

Service Load

Fall Arrest: Shown at Fig.5 the fall arrest service zone must not exceed 30° off vertical center. Field mounted or ridge mounted Formit can be used on both sides of the ridge.

Fall Restraint: Side loading service zones shown at Fig.5, are specified for areas outside the 30° fall arrest service zone.

WARNING! Do not subject the anchor to side loading when exposed to free fall hazards or leading edges.

Fall Restraint Definition OSHA 1926.751

"A means of fall protection that prevents the user from falling any distance."

Fasteners

Align anchor center holes over top chord center as shown at Fig.3. Attach with 10 each SAS No.2012-A 16d nails.

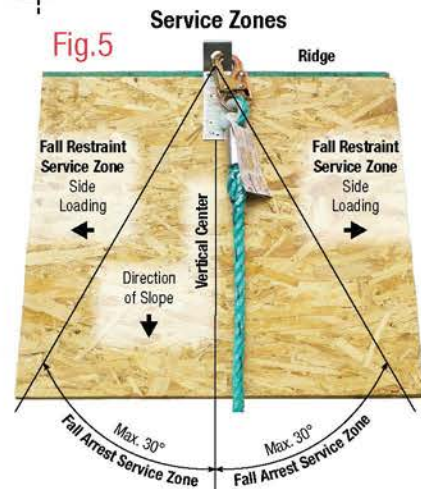
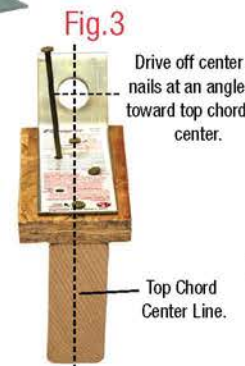
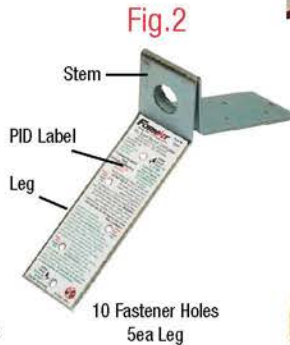
WARNING!

Use only SAS supplied fasteners. Do not use hot dip galvanized nails or screws. Serious injury or death from a fall can result if anchors are attached thru sheathing only.

Inspection Before Each Use Required

Do not use the anchor if the following inspections do not pass.

- 1) Confirm all 10 fasteners penetrate the top chord center as shown at Fig.3.
- 2) There are no blow outs as shown at Fig.4. Inspect by viewing underside of anchor installation.
- 3) Attachment hole, stem or legs are not deformed.
- 4) PID label is missing.



Anchor Spacing
Anchor locations are required to be specified by a *competent person, or SAS plan marking services. Spacing between anchors must be positioned to guard against free falls outside the free fall zone.



Anchor Evacuation After use

Max. exterior use exposure should not exceed 6 months from the original installation date. Flatten the stem as shown at Fig.6, or remove fasteners and anchor. Do not reuse anchors.

Anchors Subjected to Free Fall

Removed from service immediately and do not reuse. **WARNING!** Do not reform the anchor stem if it has been bent or flattened. Doing so may result in failure of the anchor to sustain a free fall.



SUPER ANCHOR SAFETY®

D-ShakL₂™ No.1029/1029-S Instruction/Specification Manual 2024

ENGLISH
VERSION

!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 Specifications

No.1029: Hot dip galvanized Q235 steel shackle
3/16"x5.0"x2.0" w/No.5003 forged D-Ring
1029-S: 316sst shackle 3/16"x5.0"x2.0"
w/ No.5003-S 304sst D-Ring
Captive Backer Plate: 1/16" steel spot welded
Bolt Holes: 2ea 9/16"d. 2ea.5/16"
Min. Tensile Strength: 5,000lb(22.5kN)

Compliance

Bolt/Weld Attached: ANSI Z359.18-17 Type D
WS Screws: OSHA 1926.502
SAS used in this manual = Super Anchor Safety
*Competent or Qualified Person see OSHA definition.

Specifications of Use

Max Arrest force: 1,800lb(8kN).
User Specifications: 1 person max.
wt. 310lb(140kg),
including tools and equipment.
Fall Arrest/HLL Systems
Bolt or Weld Attached: Max. free fall 6ft (1.8m).
WS Screws Attached: Max. free fall 2ft (.6m).
Do not use for HLL system.
Fall Restraint: No free fall exposure.

Non-Specified Use

Do not use for window washing, work positioning,
scaffold tie-off or material lifting.

Captive Backer Plate

Captive backers are designed to keep the D-ring captive and are not required for installation of the anchor if removed. Spot welded backers may disengage the base plate when force, such as hammering or prying are applied. See Fig.2

PPE Requirement

All PPE including SRL's (self-retracting lifelines) must comply with current ANSI, CSA or OSHA fall protection standards. Required to use a personal energy absorber rated for the workers weight.

Connectors: Use only snaphooks, carabiners or rebar hooks with 3,600lb(16kN) gate strengths that are rated for fall protection use and compatible with the anchor D-ring.

Permanent and Temporary Installation

Permanent: Install only with hex head bolts, concrete poured in place J-bolts, engineered wedge anchors or field welded on surfaces that are not subject to moisture or water penetration. See Figs.8,9.

Temporary Installation: Remove from service after final use.

Anchor Attachment Point

Fall Arrest: The structure to which the anchor is attached must be capable of supporting 5,000lb(22.5kN) or 2x the engineered fall protection load.

Fall Restraint: No free fall hazard exposure. The anchorage point must be capable of supporting 3,000lb(13.6kN) or 2x the engineered fall protection load.

Fall Restraint Definition OSHA 1926.751

"A means of fall protection that prevents the user from falling any distance."

Anchor Attachment and Fasteners

Bolt Attached: User supplied adequate length 1/2"d. grade 5, 8, 18-8sst or A-307 all thread and lock nuts as shown at Figs.8,10. Tighten nuts securely to prevent anchor movement. Flat washers may be used on the underside of the bolt penetration.

WS Screws: See Table 1. Use only SAS supplied WS screws as specified in this manual. See Fig.2 fastener images. Do not reuse WS screws.

Concrete Embedment/ Epoxy Embedment: Poured in place or wedge bolt installations must be engineered by a competent or qualified person*.

Field Welded: Shown at Fig.9, weld the shackle perimeter on all sides. Welding to be performed by a qualified person.

WARNING! Do not install anchor with nails or fasteners that are not specified by SAS.

Fig.1



Fig.2

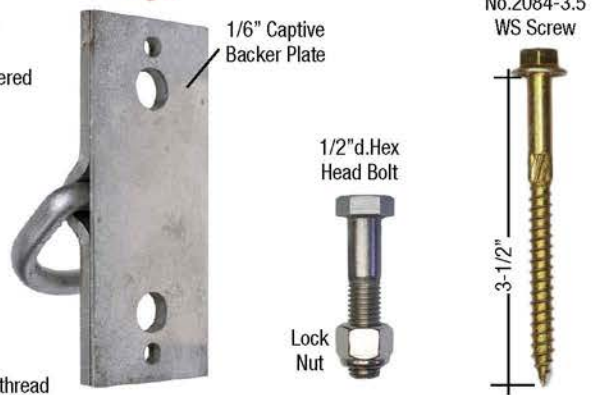


Table 1

Part No./	Pcs	Type	Length	Driver
2084-3.5	10	WS Screw	3-1/2"	3/8" Hex
2078B-3.5	900			

Fig.6



Fig.5

WS Screw Installation



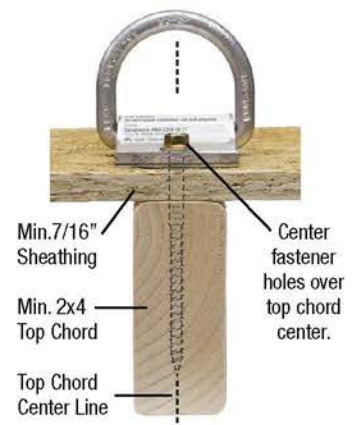
Fig.4

Center Anchor Over Top Chord



Fig.3

WS Screw Installation



Inspection: Inspect prior to each use and annually by a competent person*.

- ☒ **Remove From Service.** Replace/Repair. ☒
- Top chord WS screw blow outs. ☒
- D-ring/shackle deformed/cracked ☒
- PID labels missing. Replace. ☒
- Loose attachment bolts. Tighten. ☒
- Extreme red rust. ☒

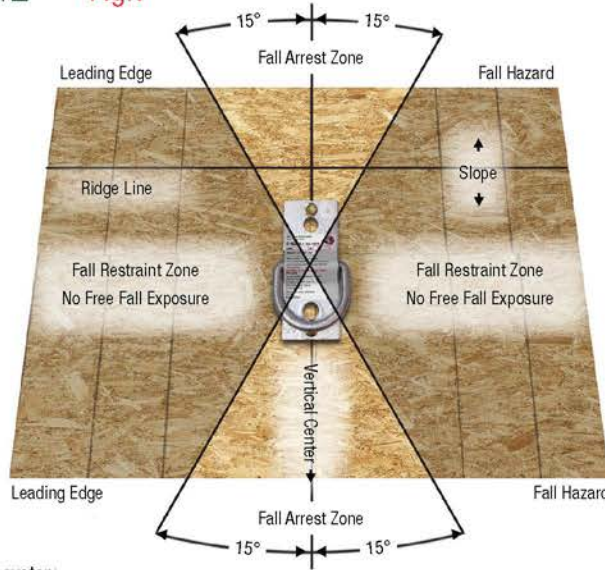
Horizontal Lifeline Systems

- Install under the supervision of a competent or qualified person*.
- Bolt attached or field welded.
- Use only No.1335 30° HLL cables w/max.20ft between anchors.
- Use intermediate anchors for multiple leg systems.
- Personal energy absorber, SLR class 1 or SRL-LE class 2 required.
- Optional No.1325 HLL rope system.

Wood Top Chord Fall Arrest/Fall Restraint

- Single person anchor temporary installation only.
 - Fall arrest service zones max. 15° off vertical center.
 - Max. free fall 2ft.
- Warning!** WS screws not rated for HLL system.

Fig.7



Permanent/Temporary Installation Bolt Attached to Structural Steel

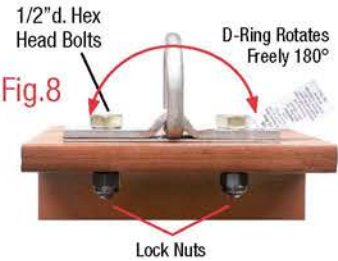


Fig.8

Permanent Installation Field Welded to Structural Steel



WARNING! Do Not Weld D-Ring
Must rotate freely after welding.
Orient D-Ring in direction of service load.

Fig.10

Wood Top Chord

Bolt attached single leg HLL system w/backer plate. See Fig.12.

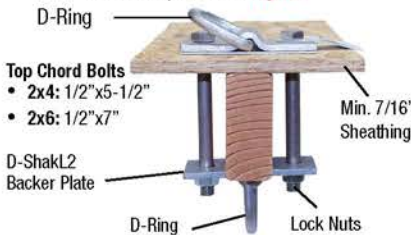


Table 2. Bolt/Field Weld or Top Chord

Service Load	No. Persons per/Leg
Fall Arrest	1
Fall Restraint	2

HLL Bolt Attached/Field Welded Anchors

Multiple leg HLL systems can be rigged using A-end, B-end and intermediate anchors. The anchor base plate must align parallel with vertical center in order to allow 2 snaphooks to be attached.

Fig.11



Fig.12

HLL Wood Top Chord Bolt Attached

Single leg system anchors are bolt attached to the top chord as shown at Fig. 10.



PID Label Pack
Permanently installed anchors require to use No.1029 PID label pack. See Figs.8,9.

Primary Labels

Fastener

Inspection



!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

Polyester Webbing: 2.0" (50mm)
Min. Tensile Strength: 10,000lb (45kN)
D-Ring: Small Slotted zinc plated 3,600lb (16kN) proof load
Max User wt.: One person 340lb (154kg) including tools and equipment
Service Length: Approx 18.0" (457mm)
Connectors: 3,600lb (16kN) gate strength complies w/ANSI Z359.12-09/CSA Z259.12-16
Compliance: ANSI Z359.1-07/ OSHA 1926:502

Specification of Use

Attaches to the dorsal D-ring of a full body harness (FBH) as shown at Fig.2.
Model 6002-D: Cinch the Dee-Web loop through the FBH dorsal D-ring as shown at Fig.2. Follow attachment instructions shown at Figs.5-8.
Model 6002-S/C: Attach connector to the dorsal D-ring of a FBH (Figs.3-4).

Non-Specified Use

Not recommended for harness side D-ring use. Do not use for mammal tether.

Fall Protection Specification

- Fall Arrest:** Requires to use an energy absorber component in the PPE rigging. Example: Maxima Fall Arrester shown at Fig.10.
- May be used as a connecting lanyard with an SRL that is equipped with an internal or external energy absorber as shown at Fig.9.
- Work Positioning:** May be used as an extension lanyard with a rope grab device provided there is no exposure to a free fall.

Fig.1
ExTender No.6002-D



Fig.2
6002-D
Attached to Harness



Fig.3
No.6002-S



Fig.4
No.6002-C



Fig.5
Align webbing sides with loop folded at the top as shown here.



Fig.6
Insert Dee loop through harness D-ring.



Fig.7
Insert webbing sides through the Dee Loop as shown.



Fig.8
Cinch webbing to form a Windsor style knot.



Compatibility

The ExTender may be attached to any standard size full body harness dorsal D-ring with a minimum inside diameter of 2.3" (58.8mm).

Table 1 ExTender Models:

Part No.	Model	D-Ring	Length	Wt
6002-D	Dee-Web Loop End	Small Slotted	19.0" (482mm)	6.5oz
6002-S	Snaphook		20.0" (508mm)	19.7oz
6002-C	Aluminium Carabiner		18.0" (457mm)	11.2oz

Storage/Maintenance/Hazards

Store in a dry area. Never store wet. Clean only with mild detergent, soft bristle brush or compressed air. Do not use bleach or corrosive cleaning materials. Keep away from vermin infested storage areas.

DO NOT expose webbing to:

- Open flame
- High heat
- Sharp edges
- Electrical hazards
- Cutting tools or grinders
- Acids, chemicals, solvents or petroleum

Inspect Before Each Use!

The following inspection points are a guideline of common conditions that occur as a result of abuse, poor maintenance, service damage or long service life. SAS recommends equipment users draft their own Inspection/Maintenance program and inspect before each use, and a minimum of once a year by a competent person. Record inspections on the Lanyard Matrix label.

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

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

ANSI-CSA and OSHA require that lanyards subjected to a free fall must be removed from service immediately and disposed of in a way that prevents further use. ☒

- 1 Has not been inspected annually. ☒
Check inspection label for data entry.
- 2 Warning label is missing or not legible. ☒
- 3 Inspection label is missing or not legible. ☒
- 4 Webbing cut, abraded, damaged by heat or chemicals. ☒
- 5 Webbing stitches cut or loose. ☒
- 6 PVC wear pad is damaged or missing.
- 7 Connectors do not pass function tests. Snaphoos rivets are missing. ☒
- 8 D-ring or connector is bent, cut or evidence of extreme oxidation or rust. ☒

Table 2 Connector Function Tests

Snaphook and Carabiner lock gates are designed to remain closed during use to prevent accidental disengagement. Inspect prior to each use and **remove equipment from service if any function test fails.**

Fig.	Test Type	Function	Pass ☑	Fail ☒
11a-12a	Gate-lock	Push against gate only.	Won't open.	Opens.
11b	Gate open	Push gate-lock and gate.	Opens.	Won't open.
11c	Gate close	Release gate and gate-lock at same time.	Snaps shut.	Won't close and lock.
12b	Unlock gate	Rotate barrel lock.	Gate opens.	Won't open.
12c	Gate closes	Release gate/barrel.	Snaps shut.	Won't close.

Fig.11a

Snaphook 7



Gate Locked.

Fig.11b



Unlock gate

Fig.11c



Rivets 6

Fig.12a



Fig.12b

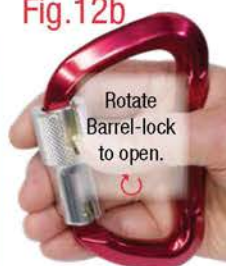


Fig.12c



Auto-Lock Carabiner

Perform same tests for thread-lock carabiners.

Rigging Examples

ExTender lanyards are designed to place the disconnecting device at the workers hip/thigh location to provide easy removal from another PPE component such as a lifeline or SRL.

WARNING! ExTender lanyards do not absorb shock and must always be used with an energy absorber component when rigged for fall arrest. A failure to do so will result in forces exceeding 1,800lb(8kN) in the event of a free fall.

Fig.9

6002 w/SRL



Energy Absorber
TossR™
Type 1 SRL

Fig.10

6002 w/ Maxima™ Fall Arrestor Lifeline



Factory attached energy absorber.

Super Grab™
No. 4015

PID Label

Fold Line

Attach to Full Body Harness
Dorsal D-Ring
Conector al Arnés
Protector del Arnés

Mfg. USA by
Super Anchor Safety
Monroe, WA 98272 USA

MAX FORCE
WEB LANYARDS

Complies With
ANSI Z359.1-2007 OSHA 1926.502
2" Polyester Webbing
50mm Cordón De Tejido Polyester
10,000lb(45kn) Min. Tensile Strength

Model / Modelo
ExTender™ Lanyard
6002-D
Dorsal Web Loop+D-Ring
19" Service Length

DOM
Y/M

D-Ring zinc plated 5,000lb min. tensile strength.

Person Capacity / Capacidad
Max. user wt. 340lb(154kg)

Warning! Keep away from high heat, open flame and avoid sharp edges. Remove from service if subjected to a free fall, webbing is cut or stitches are broken. Failure to follow instructions for use may result in serious injury or death.
ADVERTENCIA: Manténgase lejos de calor, flamas y evita los bordes afilados. Retire del servicio si se somete a una caída libre, el tejido se corta, o los puntos se rompen. El no seguir las instrucciones de uso puede resultar en lesiones graves o la muerte.

Lanyard-Label CC.1 ©Sen 06-2018
Template ML.2

Inspection Label

Fold Line

Serial No. Super Anchor Safety USA

Serial Number:
Número de serie:

Inspection

MM	YY	By	Pass

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.
ADVERTENCIA AL USUARIO!
Usted debe leer y utilizar el Manual de Instrucciones / Especificaciones suministrado en el momento en que se envía este dispositivo. El uso y la instalación inadecuados pueden resultar en lesiones graves o la muerte.

Lanyard Matrix D.3 © Sen 05-2018
Template ML.2

Residential Fall Protection Anchor Specifications

The anchors listed here are SAS recommendations that apply to residential fall protection anchors mfg. by Super Anchor Safety. Anchors and their use are required to be specified and installed under the supervision of a "qualified or competent" person with a written job specific plan (JSP).

*See OSHA definitions.

▲ **FA:** Fall arrest 6ft max. free fall. Max. slope 24/12

▲ **FR:** Fall restraint no free fall exposure

■ **WP:** Work positioning 2ft max. free fall

□ **Temporary:** Designed for single use or reuse when installed with removable fasteners.

∅=Not rated for use or installation with anchor model.

Anchor		▲ FA ▲ FR		■ WP	
Part No.	Model	Nails	Screws	Screws	Bolts
1004/A	Vertical Wall	4	∅	∅	1
1029	■ D-ShakL	∅	2	∅	
1075	D-Minus	6	6		
1097	Parapet Wall*	∅	∅	Detent Pin+Clamp	
1305-19	Cross-Brace	∅	36	36	∅
2796	Apex	8	8	∅	
2813	RS-10	6	6		
2815/S	Retro-Fit	8	8		
2815-T	Tile-Retro				
2816/D/S	RS-20	8	8	8	∅
2816-W	RS-20W Wall				
2100	Flex	12	6	∅	
3013-D	Hinge-2	10	10	10	∅

The following OSHA definitions are SAS edited versions.

Fall Arrest OSHA 1910.140

(d)(1)(i): Limit max. arresting force to 1,800lb.

(d)(1)(iii): Sufficient strength to withstand 2x the potential impact energy in a 6ft free fall, or the distance permitted by the system.

(d)(1)(v): 310lb max. user wt. including tools.

(d)(2)(ii): System must be rigged to limit a free fall of no more than 6ft.

Fall Restraint Definition OSHA 1926.751

A means of fall protection that prevents the user from falling any distance.

Work Positioning OSHA 1910.140(b)

A fall protection system used with a full body harness or body belt that allows a worker to be supported on an elevated vertical surface, such as a wall or window sill, and work with both hands free.

1926.502(e)(1). A fall protection system shall be rigged to prevent a worker from falling no more than 2ft.

1926.502(e)(2). ...secured to an anchorage capable of supporting at least twice the potential impact load of a workers fall or 3,000lb, whichever is greater.

▲ Bolt Attached

1003-D	I-Joist	▲ FA ▲ FR	■ WP ∅
1028	Swivel-D		
2811	Z-Purlin		
2833	Truss-Bar*		
2835	WS TrussBar		
Safety Bars* all models			
ARS all models			
1014	ARS Temporary*	Detent Pin	

Qualified Person Definition

OSHA 1910.140 (29 CFR 1926.32(m))

"One who by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated the ability to solve problems relating to the subject matter, work or project."

□ Temporary/Single Use

1019	Form-IT	10	10	∅	
1008	ARS-5K				
Evac all models		∅	∅	∅	1

■ D-ShakL max. 8/12 pitch 2ft. free fall.

*Attached with detent pins.

Note: Window washing anchors are not included in this list.

Competent Person Definition

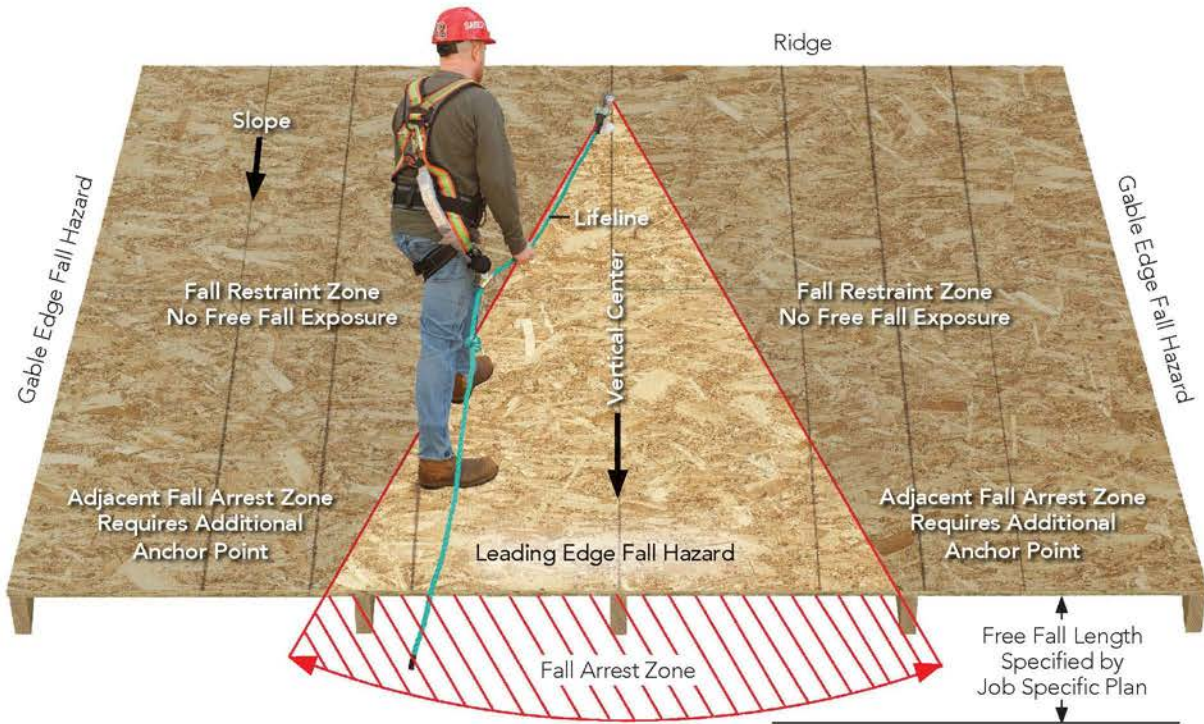
OSHA 1910.140

"One who is capable of identifying existing and predictable hazards in any personal fall protection system or any component of it, as well as in their application and uses with related equipment, and who has authorization to take prompt corrective action to eliminate the identified hazards."

Fall Restraint Example

Fall restraint is any area outside a designated fall arrest service zone. To prevent travel over a leading or gable edge fall hazard, adjustments are made to the lifelines length using a rope grab. A limiter knot can be used to limit or prevent a rope grabs movement beyond a certain point and acts as a fail safe or warning device when getting too close to a fall hazard.

Fall Restraint Rigging Example w/Vertical Lifeline



Note: SRLs are not designed to restrain a worker from traveling over a leading edge. For that reason a Class 2 SRL-LE can be used in lieu of a lifeline system in fall arrest.

Limiter Knot/Failsafe

When correctly positioned on the lifeline, a limiter knot and rope grab can be used as a gauging device that will prevent a worker from traveling too close to a free fall hazard.

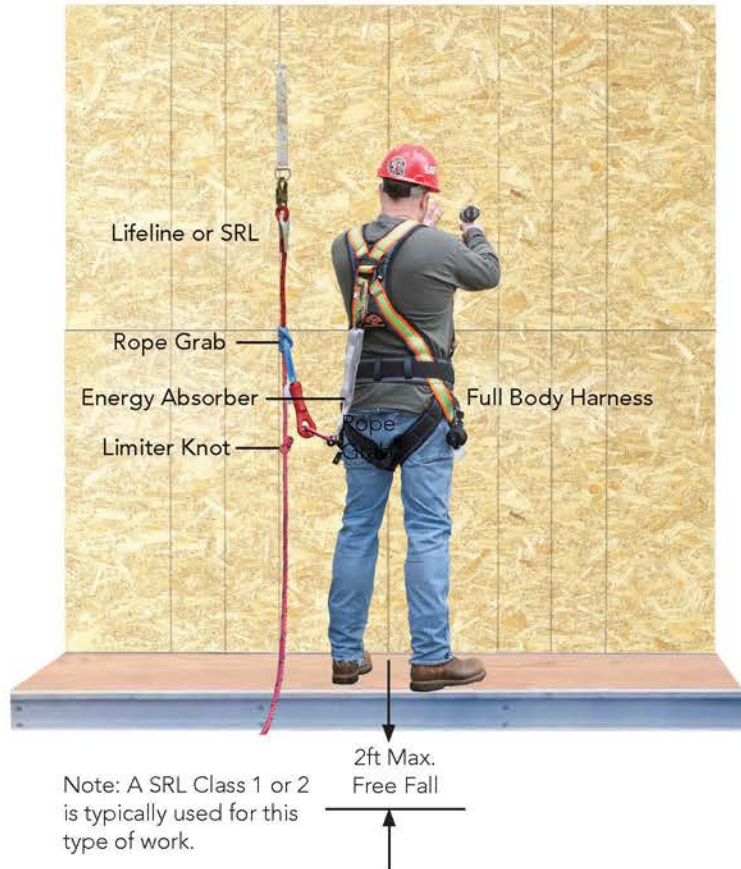
Fall Restraint allows a worker to travel outside a designated fall arrest zone by adjusting the workers position on the lifeline with a rope grab and limiter knot.



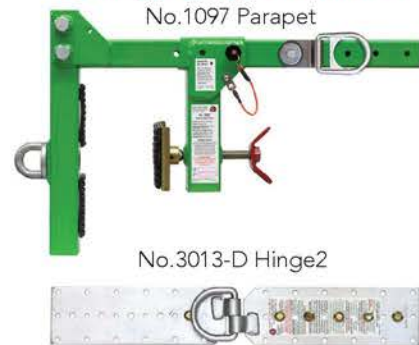
Work Positioning Example

Work positioning is hands free work being performed from a temporary or permanent supporting structure such as a ladder, scaffolding, ladder supported walk plank or a window sill. The fall protection system is rigged in such a way as to limit a free fall to no more than 2ft. Permanent or temporary anchors used for vertical wall installation are required to be attached with screws or bolts. The rigging system is required to be specified by a "qualified or competent" person.

Work Positioning Rigging Example w/Vertical Lifeline



Temporary Anchors



Permanent Anchors



Permanent or Temporary Installation

Part No.	Model	*WS	*Bugle Head	Bolts
1004	Vertical Wall	N/A	N/A	1
1004-A				
1305-19	Cross-Brace	36	N/A	N/A
2816	RS-20	8	8	N/A
2816-D				
2816-S				
2816-W	RS-20W			

Temporary Installation Only

1097	Parapet Wall	N/A	N/A	Clamps
3013-D	Hinge-2	10	10	N/A

*Certified wood screws see catalog page for ordering information.

RS-20 Permanent/Temporary



Anchor Fasteners Specifications

SAS factory supplied fasteners and detent pins are tested to perform as specified in our instruction manuals. A wide range of fastener types are provided to meet the most common installations onto wood, steel, and concrete substrates used in residential construction.

Warning! The use of fasteners supplied by others requires certification by a "qualified or competent" person, or 3rd party engineering to ensure performance standards are not compromised.

Permanent Installation Fastener Types

Wood Top Chord				Metal Decking	Insulation Panels
Spiral Shank SST Nails	Bugle Head SST Screws	WS Screws	ARS grd 8 Bolts	Blazer #12-14 Metal Screw	HeadLok Wood/Metal GM or SP Tip Screws

Temporary Installation Fastener Types

Wood Top Chord		Type B Decking	Insulation Panels	Concrete	Safety Bars
Duplex Nails	16d Vinyl Sinkers	Blazer #12-14	HeadLok Wood/Metal GM or SP Tip Screws	1/4" Titen HD Screw	3/8" SST Detent Pins

See SAS certified fasteners catalog page for ordering information.

Wood Top Chord



Spiral Shank SST Nail



Bugle Head SST Screw



WS Wood Screw



16d Duplex Nail



16d Vinyl Sinker Nail



ARS Series grd 8 Bolt

Metal Decking



Blazer #12-14 Metal Screw



Safety/Truss Bars



Detent Ball Lock Pin

Insulation Panels



HeadLoK Wood Tip GM or Metal Tip SP Screw



Concrete



Titen Concrete HD Screw



Fastener Packages

Fasteners are sold in retail packages ideal for display or bulk quantities in boxes.

Retail Package



Bulk Boxes





Super Anchor Safety[®]

Fall Protection Equipment

THE BEST IN FALL ARREST

17731 147th Street SE Monroe, WA 98272

PHONE: (425) 488-8868 FAX: (360) 668.1717

WWW.SUPERANCHOR.COM

