



# SUPER ANCHOR SAFETY

## D-Minus™ Pat-Pend Fall Indicator Roof Anchor Instruction Specification Manual 2013

**!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 Specification:

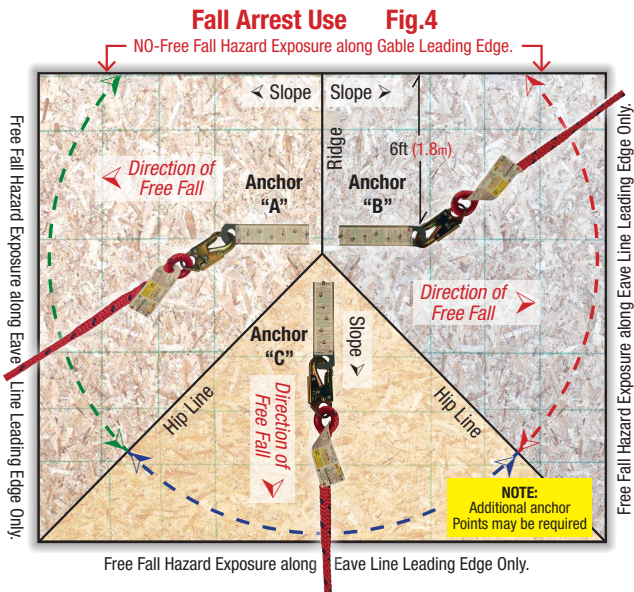
**Part N° 1075:** 11 gauge powder coated steel.  
**Part N° 1075-S:** 11 gauge 430 stainless steel.  
 PPE Connector hole: 7/8" (22.2mm)  
 Dimensions: 2" (50mm) x 9-1/4" (235mm)  
 Fasteners: 6 required  
 Minimum Breaking Strength: 5,000lb (22.5kN)

### Specification of Use:

Fall Arrest or Work Positioning for one person with a maximum body weight of 310lb (140kg) including tools and equipment. **Energy Absorber is required.**  
**Non-Specified Use:** Not rated for use with SRL's, Horizontal Lines, multiple users, Window Washing Fall Arrest Side-Loading or Reverse-Loading.

### Fall Arrest Use/Anchor Orientation to Free Fall Force Loads:

Exposure to free falls must be applied in line/parallel to the anchor leg and down-slope as shown at Figs.1 and 4. Example: Anchor "A" must be used in the area shown by the green circle. Anchor "B" the red circle and Anchor "C" the blue circle. Adjust user position on the lifeline to prevent travel beyond the Gable Leading Edge, or free fall exposure across the Ridge/Hip Line. **Wrong Installation:** See Figs.6 and 9 pg. 2. Additional anchors may be required to prevent swing fall hazards or free falls of more than 6ft (1.8m) especially at hip ends.



### Temporary Anchor Installation:

Attach anchor at least 6" (150mm) down slope from the hip or ridge and 6ft (1.8m) horizontally from the gable end. Install over sheathing with anchor leg center over the top chord center. Anchor leg and connector hole must be pointing down slope as shown at Fig.1. Horizontal anchor spacing is recommended to be 12ft (3.6m) o.c. or less and should be calculated by a qualified person as part of a "Job Specific Fall Protection Plan".

**Fasteners:** 6 fasteners are required to be installed as shown at Fig.1. Angle off center fasteners toward the center of the top chord as shown at Fig.2. Avoid blow-outs, Figs.3 and 9.

**Fastener Strength Rating:** Shown at "Fastener Matrix", are approx. strength values for anchors attached through 7/16" OSB into N°2 Doug Fir top chords. Super Anchor Safety (SAS) factory supplied fasteners are certified to perform as specified and are recommended to be used.

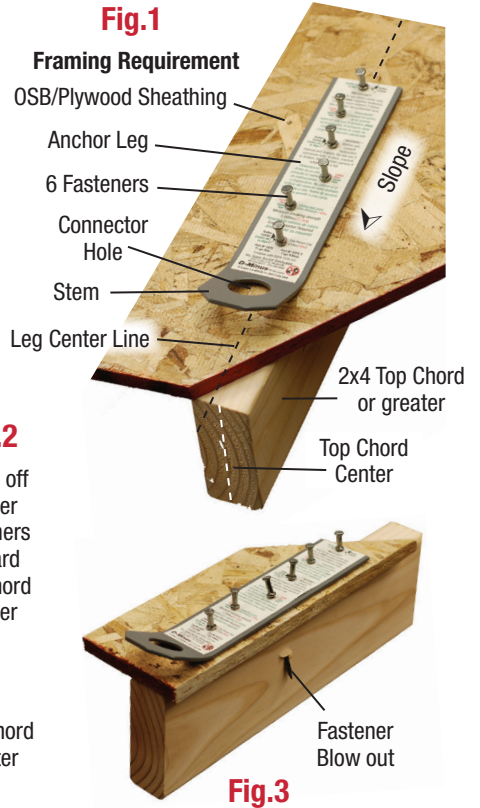
**WARNING:** Fasteners not supplied or certified by (SAS) may not provide adequate strength to sustain a free fall or to perform as specified in this manual. Use at own risk.

### Fastener Specifications Matrix : Single Packs

Order Part N°	SAS Certified Fastener Packs Type	Qty	Use	Avg. 6 Fasteners Strength Value
2013C	3-1/4" 12d SST Nail	6	Permanent	3,600lb (16kN)
2045C	410ss 3" Bugle Screw			5,000lb (22.5kN)
2009C	10-2-7/8" Hex Screw			5,000lb
3007C	3-1/4" Vinyl Sinker	6	Temporary	3,600lb (16kN)
2012C	3-1/2" Duplex Nail			2,500lb (11.5kN)

### Request Bulk Pack Part numbers.

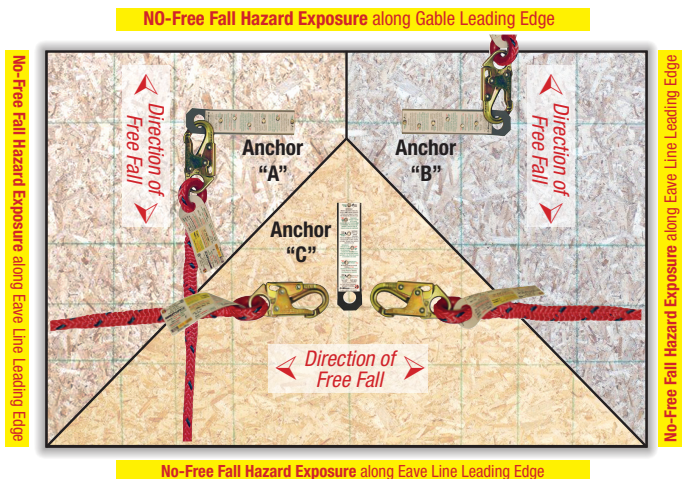
**WARNING:** Temporary fasteners exposed to the weather will deteriorate. Remove from service after 6 months. DO NOT use Vinyl Sinks for permanent installations. **REQUIRED:** Butyl strip is required for permanent installations to prevent fastener deterioration, damage to the overlapping roofing membrane, and waterproofing.



**Fall Restraint Use:** Shown at Fig.5, "Side-Loading" applies force at right angles (perpendicular) to the anchor leg and are permitted for Fall Restraint only. Example: Anchor "A" allows travel over the Hip Line into Anchor "C" area but requires the workers position on the lifeline to be adjusted to prevent travel beyond the Eave edge or into anchor "B" area. No Free Fall Exposure.

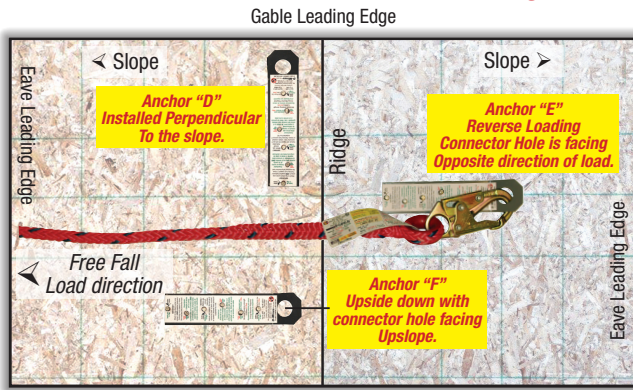
**Fall Restraint Definition:** Adjusting a workers position on a lifeline using a rope grab device in order to limit/restrict travel beyond the Gable Edge, Eave Leading Edge, or other areas of free fall or swing fall hazard exposure. **SIDE-LOADING/NO FREE FALL:** Due to the limited number of fasteners do not use the D-minus for Fall Arrest when side loaded as shown at Figs.5 and 6.

### Fall Restraint/Work Positioning Fig.5



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## !WARNING! WRONG INSTALLATION Fig.6



### Permanent Anchor Installation:

Due to fastener length DO NOT install anchor through materials that are more than 1/4" (6mm) thick. Consult **SAS** sales office for options. **1)** Locate the top chord center and align with anchor leg center as shown at Fig.8a. Fastener heads must be flush with the leg surface. **2)** Position the anchor stem to allow the roofing membrane over-lap to intersect the stem bend line. **3)** Fasteners are required to be water-proofed with **SAS 7"** length Butyl strip (Part N° 2043) or other **SAS** approved membrane. DO NOT apply over moisture. Remove backer paper and press Butyl strip onto the anchor leg as shown at Fig.8b. Alternate waterproofing methods are not recommended. **4)** Install roofing over anchor leg leaving stem exposed as shown at Fig.8c.

**Disclaimer:** **SAS** is not responsible for water penetration through fastener attachments when alternate flashing methods are used.

**Painting:** D-minus exposed stem section only, may be painted.

Fig.8a



Fig.8b



Fig.8c



### Compatible Connectors:

The D-Minus anchor connector hole is designed to accept snap-hooks and carabiners that comply with the following gate strength requirements: 3,600lb (16kN) gate strength: ANSI Z359.1-07 CSA Z259.12

DO NOT USE connectors that are not certified for Fall protection. Connectors must have a minimum breaking strength of: 5,000lb (22.5-23kN)

### Framing Strength Requirement:

Anchorage attachment point must be capable of supporting 5,000lb (22.5kN), or 2 times the maximum arrest force (intended fall protection load) as specified in OSHA 1926.502(d) or ANSI Z359.1-2007(7.2.3). Refer to Fastener Matrix for fastener strength data. Use of an engineered Job Specific Plan (JSP) is recommended when fastener strength ratings are less than 5,000lb (22.5kN) **WARNING: DO NOT install onto framing that is damaged. DO NOT install directly over top chord splices.**

## WARNING! Non-Specified Use Fig.6:

**Anchor D:** DO NOT use or install an anchor perpendicular/right angle to slope.

**Anchor E:** DO NOT use for Fall Arrest in the Reverse Loading position.

**Anchor F:** DO NOT install the anchor in the opposite direction of slope.

DO NOT install fasteners through sheathing only. Fig.9. DO NOT use to for scaffolding, hoisting or static loading. Not rated for window washing.

### Fall Hazards Mitigation:

Fall hazards can be guarded against by the following methods:

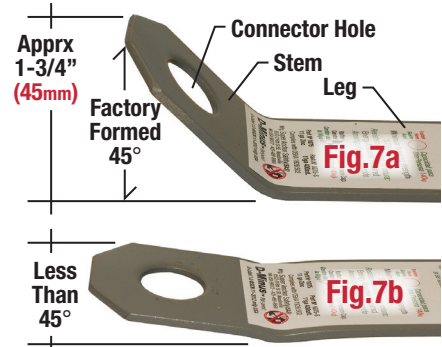
- 1) Limit excess lifeline slack by adjusting the rope grab position on the lifeline.
- 2) Position anchors to provide sufficient tie-off points limiting the distance of travel between anchor points.
- 3) Draft a Job specific plan addressing the fall hazards for each project, including anchor positioning plans. See ARS 2010 manual or SAS 2010 sec4, pg.5. manual.
- 4) Draft a Length of Fall Plan specific to each job site.
- 5) Use Personal Protective Equipment (PPE) that is component compatible.

### Fall Indicator Stem:

The anchor stem is factory formed to a 45° angle as shown at Fig.7a. When subjected to a force of 450-600lbs (200-260kg) over the leading edge, the stem will bend down providing a visual indicator as shown at Fig.7b.

**DO NOT USE** if any stem or connector hole deformation is present. Refer to "Evacuation" section for removal. DO NOT re-bend or repair damaged anchors.

**WARNING: Metal fatigue can result from re-bending the anchor stem or leg causing the anchor to fail when subjected to a free fall or static load.**



**!DO NOT USE! Force Has Been Applied Remove from service immediately.**

### Inspection Required Before Each Use:

Perform the required Interior and Exterior inspections. If any of the following conditions are present DO NOT USE! Follow instructions to remove anchor from service immediately.

**Exemption: Interior Inspection is not required if a certified anchor installation has been performed and documented.**

### Interior/Underside of Framing Inspection:

- Top chord blow outs present. Fig.3
- Fasteners through sheathing. Fig.9
- Top Chords or sheathing are damaged.

### Remove From Service:

Anchors that do not pass inspections or have been subjected to a free fall or other force.

**Evacuation:** Remove and dispose of anchors so they can not be re-used.

**Replacement:** To prevent top chord damage, DO NOT re-install a new anchor at the same location. DO NOT re-use fasteners after they have been removed.

### Eye Protection:

Wear safety glasses during fastener installation and fastener removal. DO NOT install screws using a hammer.

### Exterior at Anchor Attachment:

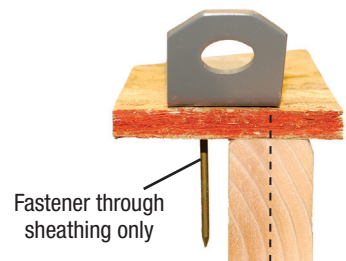
Less than 6 Fasteners visible.

Fastener heads are not flush with anchor leg surface. Fig.8a

Stem, leg, or connector hole are bent, cut or deformed. Fig.7b

Factory label is missing or damaged\*. Fig.8a\* Replace label if necessary.

Fig.9  
**! Wrong Installation !**



### Component Compatible PPE:

Fall protection equipment mfg. by **SAS** is engineered to be component compatible with all **SAS** anchorage devices. The following PPE systems are recommended: Part N°3001 Max Kit: N°4003 Total Package. N°4018 Value Pack. Kits contain equipment storage, Lifeline, Energy Absorber, Rope Grab, connectors and anchorage devices.