

GUARDIAN

FALL PROTECTION



Product Name: S-Anchor

Part #: 00653; 00690; 45020; 45022

Instruction Manual

Do not throw away these instructions!
Read and understand these instructions before using equipment!

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Introduction

Thank you for purchasing a Guardian Fall Protection S-Anchor. This manual must be read and understood in its entirety, and used as part of an employee training program as required by OSHA or any applicable state agency.

This and any other included instructions must be made available to the user of the equipment. The user must understand how to safely and effectively use the S-Anchor, and all fall safety equipment used in combination with the S-Anchor.

User Information	
Date of First Use:	_____
Serial #:	_____
Trainer:	_____
User:	_____


Applicable Safety Standards

When used according to instruction specifications, this product meets or exceeds all applicable OSHA 1926 Subpart M, OSHA 1910, ANSI Z359.18-2017, and ANSI A10.32-2012 standards for fall protection. This product has been tested in compliance with the requirements of ANSI/ASSE Z359.7. Testing only covers hardware and does not extend to the anchorage or substrate to which this product is attached. Applicable standards and regulations depend on the type of work being done, and also might include state-specific regulations. Consult regulatory agencies for more information on personal fall arrest systems and associated components.

S-Anchors are additionally compliant with ANSI/IWCA I-14.1-2001 Section 9 requirements for tie-back/suspension anchorages for window washing or facade maintenance equipment. Caution: not all S-Anchors comply with CalOSHA section 3291 (f) for roof tie-back/suspension anchorages, which are required on all buildings in California over 36' (or three stories), with certain rare exceptions.

Contact Guardian's Engineered Services Group (ESG) for more information or for anchors compliant with CalOSHA standards.

Worker Classifications

 CAUTION	Understand the following definitions of those who work near or who may be exposed to fall hazards.
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Qualified Person: A person with an accredited degree or certification, and with extensive experience or sufficient professional standing, who is considered proficient in planning and reviewing the conformity of fall protection and rescue systems.

Competent Person: A highly trained and experienced person who is ASSIGNED BY THE EMPLOYER to be responsible for all elements of a fall safety program, including, but not limited to, its regulation, management, and application. A person who is proficient in identifying existing and predictable fall hazards, and who has the authority to stop work in order to eliminate hazards.

Authorized Person: A person who is assigned by their employer to work around or be subject to potential or existing fall hazards.

It is the responsibility of a Qualified or Competent person to supervise the job site and ensure all applicable safety regulations are complied with.

Product Specific Applications



WARNING Use of equipment in unintended applications may result in serious injury or death. Maximum 1 attachment per connection point.



Personal Fall Arrest: S-Anchors may be used to support a MAXIMUM 1 personal fall arrest system (PFAS) for use in Fall Arrest applications. Structure must withstand loads applied in the directions permitted by the system of at least 5,000 lbs., or achieve a minimum 2:1 safety factor, as determined by a Qualified Person. Maximum free fall is 6', or up to 12' if used in combination with equipment explicitly certified for such use. **If PFAS anchor point is intended for permanent installation, it must be designed for use in Fall Arrest.** Applicable D-ring: Dorsal.



Restraint: S-Anchors may be used in Restraint applications. Restraint systems prevent workers from reaching the leading edge of a fall hazard. Always account for fully deployed length of lanyard/SRL. Structure must withstand loads applied in the directions permitted by the system of at least 1,000 lbs. No free fall is permitted. Restraint systems may only be used on surfaces with slopes up to 4/12 (vertical/horizontal). Applicable D-rings: Dorsal, Chest, Side, Shoulder.



Work Positioning: S-Anchors may be used in Work Positioning applications. Work Positioning systems allow a worker to be supported and work freely with both hands. Structure must withstand loads applied in the directions permitted by the system of at least 3,000 lbs. Maximum allowable free fall is 2'. Applicable D-rings: Side.



Rescue/Confined Space: S-Anchors may be used in Rescue/Confined Space applications. Rescue systems function to safely recover a worker from a confined location or after exposed to a fall. There are various configurations of Rescue systems depending on the type of rescue. Structure must withstand loads applied in the directions permitted by the system of at least 3,000 lbs. No free fall is permitted. Applicable D-rings: Dorsal, Chest, Shoulder.

For all applications: worker weight capacity range (including all clothing, tools, and equipment) is 130-420 lbs.

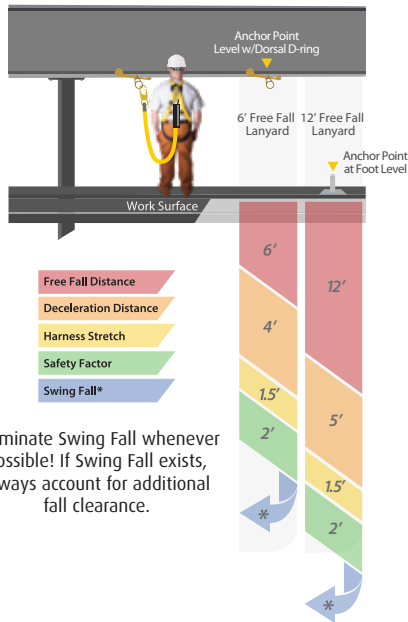


Limitations

Fall Clearance: There must be sufficient clearance below the anchorage connector to arrest a fall before the user strikes the ground or any obstruction. When calculating fall clearance, account for a **MINIMUM 2'** safety factor, free fall, deceleration distance, harness stretch, swing fall, and all other applicable factors.

Diagram shown is an example fall clearance calculation ONLY.

Fall clearance calculation shown based on standing worker falling directly in-line with anchor point. Always consider potential swing fall and other hazards when calculating fall clearance.



*Eliminate Swing Fall whenever possible! If Swing Fall exists, always account for additional fall clearance.

Swing Falls: Prior to installation or use, make considerations for eliminating or minimizing all swing fall hazards. Swing falls occur when the anchor is not directly above the location where a fall occurs. Always work as close to in line with the anchor point as possible. Swing falls significantly increase the likelihood of serious injury or death in the event of a fall.

Compatibility: When making connections with S-Anchor, eliminate all possibility of roll-out. Roll-out occurs when interference between a hook and the attachment point causes the hook gate to unintentionally open and release. All connections must be selected and deemed compatible with S-Anchor by a Competent Person. All connector gates must be self-closing and self-locking, and withstand minimum loads of 3,600 lbs. See the following for examples of compatible/incompatible connections:

Connector closed and locked to D-ring. **OK.**



Connector to integral lanyard. **NO.**

Two connectors to same D-ring. **NO.**



Connector directly to webbing. **NO.**

Incompatible or irregular application, which may increase risk of roll-out. **NO.**



Connector directly to horizontal lifeline. **NO.**

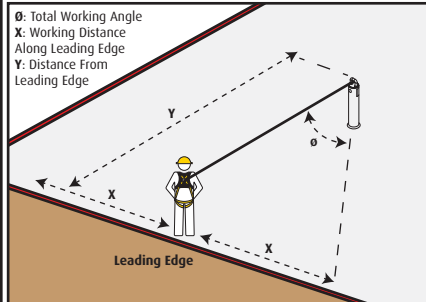
Two or more snap hooks or carabiners connected to each other. **NO.**



Correct Anchorage Positioning:

This chart details allowable working zones required to reduce risk of swing falls and improper side loading. ALWAYS adhere to information specified by chart.

Anchor Distance From Leading Edge (Y)	Working Distance Along Roof Edge (Either Direction) (X)	Working Angle From Perpendicular (θ)
6'	8'	53°
10'	9' - 9"	45°
15'	11' - 7"	38°
20'	13' - 3"	33°
25'	14' - 6"	30°
30'	16'	28°
35'	17' - 2"	26°
40'	18' - 3"	24°
45'	19' - 4"	23°
50'	19' - 10"	21°
55'	21' - 4"	21°
60'	22' - 3"	21°



For example, if the anchorage connector is 6' from the leading edge (Y), the working distance (X) is 8' in each direction from the perpendicular, which translates to a 53° working angle.

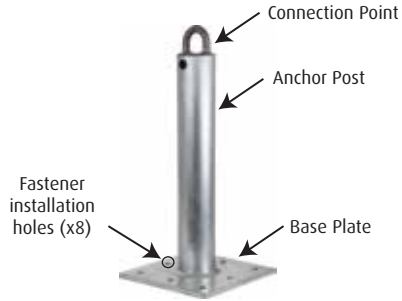
Components and Specifications

Type A & Type T anchorage connector.

Minimum permitted service temperature: -30° F.

5,000 lb. MBS (minimum breaking strength).

Materials: galvanized steel.



Standard	Swivel Top	Post	Base	Description
#00690	#00653	24"	12" x 12"	S-Anchor
#45020	-	24"	-	S-Anchor Weld-On Post (w/Steel U-Bar)
#45022	-	24"	-	S-Anchor Weld-On Post (w/Stainless Steel U-Bar)
#10683	-	-	12" x 12"	S-Anchor Backer Plate

Installation and Use



All installation of S-Anchors MUST be approved by a Competent or Qualified Person, or by a Guardian Fall Protection certified installer.

MINIMUM substrate thickness requirements:

- Do not install on wood or metal substrates.
- Concrete: 6", 2,500 psi or better.

Substrate fastener requirements:

- Concrete: ½" x 3½" concrete bolts. Qty. 8.

S-Anchor roof slope compatibility:

- Flat - shear.
- Any installation past shear (for example, on the underside of a beam) must be done in combination with backer plate.

Prior to use, plan your system:

1. Ensure all PFAS equipment is selected and deemed compatible with S-Anchor by a Competent Person.
2. Eliminate or minimize all risk of swing fall.
3. Ensure structure to which S-Anchor is to be installed, and on which work is to be performed, is free of all hazards, including, but not limited to, debris, rot, rust, sharp or abrasive edges and surfaces, and hazardous materials.
4. A Qualified Person must determine that structure to which S-Anchor is to be installed is rated to withstand minimum required loads. There are no minimum or maximum spacing requirements for S-Anchors, provided structure is of sufficient strength.
5. For all S-Anchors, all applicable fastener holes MUST be used and all fasteners MUST be fully embedded in substrate. NEVER over-tighten fasteners.
6. S-Anchor is rated for loading in any direction provided it is installed as prescribed. Suitable for use in HLL applications.

Installation, S-Anchor (part # 00653 and 00690)

Wood Install:

DO NOT INSTALL S-ANCHOR ON WOOD SUBSTRATES.

Metal Install:

DO NOT INSTALL S-ANCHOR ON METAL DECKING. Installation onto structural metal beams is permitted (see backer plate install).

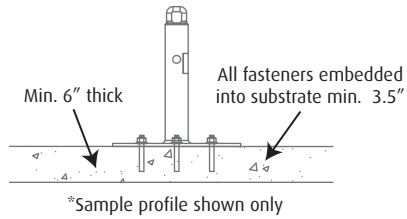
Concrete Install:

MINIMUM substrate requirement: 6" thick, 2,500 psi.

Installation must be done a MINIMUM 8" from all edges. Hilti HIT-HY 200 epoxy or equivalent is required for installation of Hilti HIT-Z Rods.

• S-Anchor Fasteners: (8) .5" Hilti HIT-Z Rods (or equivalent), with minimum 3.5" embedment.

- 1) Place S-Anchor at selected installation location;
- 2) Install all fasteners until snug, and ensure S-Anchor is fully secured to substrate;
- 3) Always refer to bolt manufacturer's instructions regarding fastener installation.

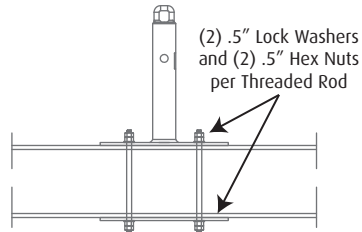


Backer Plate Install (part # 10683):

Compatible beam width: 6" - 8" *.

• Fasteners MUST be (8) .5" Lock Washers, (8) .5" Hex Nuts, and (minimum 4) .5", A307 Threaded Rods, cut in the field to the proper length.

- 1) Place S-Anchor Anchor at compatible installation location;
- 2) Secure Backer Plate to S-Anchor with all required fasteners;
- 3) Tighten all fasteners until snug, and ensure S-Anchor is secured to substrate;
- 4) Deform threads on all fasteners to prevent tampering.



*Backer plate installation may also be done on structural member other than I-beam, provided structural member is deemed compatible by jobsite Competent Person

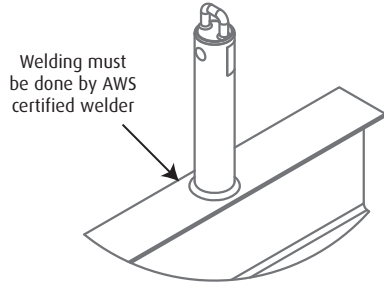
Installation, S-Anchor Weld-On Post (part # 45020):

S-Anchor Weld-On Post must be installed by an American Welding Society (AWS) certified welder in accordance with all applicable welding regulations.

Post diameter: 4"

Fillet weld: .3125" (5/16")

Minimum beam flange width: 5"



Maintenance, Cleaning, and Storage

If S-Anchor fails inspection in any way, immediately remove it from service, and contact Guardian to inquire about its return or repair. Field serviceability testing is not required, and should not be done by the end user.

Cleaning after use is important for maintaining the safety and longevity of S-Anchor. Remove all dirt, corrosives, and contaminants from S-Anchor before and after each use. If S-Anchor cannot be cleaned with plain water, use mild soap and water, then rinse and wipe dry. NEVER clean S-Anchor with corrosive substances.

When not in use, store equipment where it will not be affected by heat, light, excessive moisture, chemicals, or other degrading elements.



Inspection

Prior to EACH use, inspect S-Anchor for deficiencies, including, but not limited to, corrosion, deformation, pits, burrs, rough surfaces, sharp edges, cracking, rust, paint buildup, excessive heating, alteration, and missing or illegible labels. IMMEDIATELY remove S-Anchor from service if defects or damage are found, or if exposed to forces of fall arrest.

Ensure that applicable work area is free of all damage, including, but not limited to, debris, rot, rust, decay, cracking, and hazardous materials. Ensure that selected work area will support the application-specific minimum loads set forth in this instruction manual. Work area MUST be stable.

At least every 12 months, a Competent Person other than the user must inspect S-Anchor. **Competent Person inspections MUST be recorded in inspection log in instruction manual and on equipment inspection grid label. The Competent Person must sign their initials in the box corresponding to the month and year the inspection took place.**

During inspection, consider all applications and hazards S-Anchor have been subjected to.

Inspection Log

Date of First Use: _____.

Product lifetime is indefinite as long as it passes pre-use and Competent Person inspections. User must inspect prior to EACH use. Competent Person other than user must complete formal inspection at least every 12 months. Competent Person to inspect and initial.

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This inspection log must be specific to one S-Anchor. Separate inspection logs must be used for each S-Anchor. All inspection records must be made visible and available to all users at all times.

If equipment fails inspection IMMEDIATELY REMOVE FROM SERVICE.

Safety Information



Failure to understand and comply with safety regulations may result in serious injury or death. Regulations included herein are not all-inclusive, are for reference only, and are not intended to replace a Competent Person's judgment or knowledge of federal or state standards.

Do not alter equipment. Do not misuse equipment.

Workplace conditions, including, but not limited to, flame, corrosive chemicals, electrical shock, sharp objects, machinery, abrasive substances, weather conditions, and uneven surfaces, must be assessed by a Competent Person before fall protection equipment is selected.

The analysis of the workplace must anticipate where workers will be performing their duties, the routes they will take to reach their work, and the potential and existing fall hazards they may be exposed to. Fall protection equipment must be chosen by a Competent Person. Selections must account for all potential hazardous workplace conditions. All fall protection equipment should be purchased new and in an unused condition.

Fall protection systems must be selected and installed under the supervision of a Competent Person, and used in a compliant manner. Fall protection systems must be designed in a manner compliant with all federal, state, and safety regulations. Forces applied to anchors must be calculated by a Competent Person.

Unless explicitly stated otherwise, the maximum allowable free fall distance for lanyards must not exceed 6'. No free fall allowed for non-LE SRLs. Class A SRLs must arrest falls within 24"; Class B SRLs must arrest falls within 54".

Harnesses and connectors selected must be compliant with manufacturer's instructions, and must be of compatible size and configuration. Snap hooks, carabiners, and other connectors must be selected and applied in a compatible fashion. All risk of disengagement must be eliminated. All snap hooks and carabiners must be self-locking and self-closing, and must never be connected to each other.

A pre-planned rescue procedure in the case of a fall is required. The rescue plan must be project-specific. The rescue plan must allow for employees to rescue themselves, or provide an alternative means for their prompt rescue. Store rescue equipment in an easily accessible and clearly marked area.

Training of Authorized Persons to correctly erect, disassemble, inspect, maintain, store, and use equipment must be provided by a Competent Person. Training must include the ability to recognize fall hazards, minimize the likelihood of fall hazards, and the correct use of personal fall arrest systems.



NEVER use fall protection equipment of any kind to hang, lift, support, or hoist tools or equipment, unless explicitly certified for such use.

Equipment subjected to forces of fall arrest must immediately be removed from use.

Age, fitness, and health conditions can seriously affect the worker should a fall occur. Consult a doctor if there is any reason to doubt a user's ability to withstand and safely absorb fall arrest forces or perform set-up of equipment. Pregnant women and minors must not use this equipment.

Physical harm may still occur even if fall safety equipment functions correctly. Sustained post-fall suspension may result in serious injury or death. Use trauma relief straps to reduce the effects of suspension trauma.

Labels

 <p>1-800-466-6385 www.guardianfall.com</p> <p>Compliant with OSHA 1910, OSHA 1926 Subpart M, ANSI A10.32-2012, ANSI Z359.18-2017, & IWCA I-14 1-2001.</p> <p>Prior to use, read and understand all manufacturer's instructions provided with equipment at time of shipment.</p>	<p>S-Anchor</p> <p>Part #:</p> <div style="background-color: black; width: 100px; height: 15px;"></div> <p>DOM:</p> <div style="background-color: black; width: 100px; height: 15px;"></div> <p>Serial #:</p> <div style="background-color: black; width: 100px; height: 15px;"></div>	<p>Type A/T anchorage connector. 5,000 lb. MBS (minimum breaking strength). Worker capacity range (including all equipment): 130-420 lbs. 1,250 lb. working load with 4:1 safety factor. Minimum service temperature: -30° F.</p> <p>Only make compatible connections. Refer to instructions for proper installation and connection methods.</p> <p>All PFAS equipment must be selected and deemed compatible with S-Anchor Anchor by a Competent Person.</p> <p>Suitable for fall protection and suspension work. NEVER for simultaneous fall protection and suspension. Design, installation, and use of suspension system must be in compliance with OSHA, ANSI, and IWCA regulations.</p>																																																																													
	<p> WARNING</p>	<p>MAXIMUM 1 connection per anchor.</p>	<p>Avoid contact with hazards, including, but not limited to, heat, chemicals, electricity, and sharp or abrasive edges and surfaces.</p>																																																																												
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