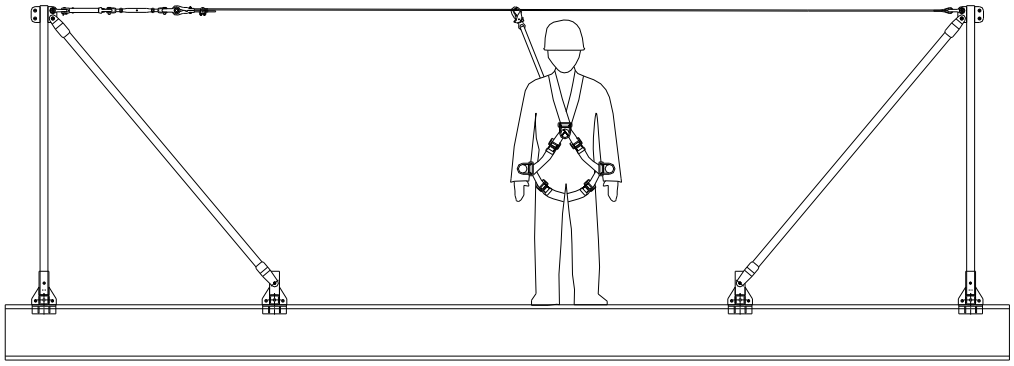
Reliance Industries, LLC

Installation, Operation, Inspection and Maintenance Instructions for the Strongback Stanchion Stabilizer Bar

6100 Series Strongback Stabilizers

Model	Description
6140-1	Strongback Wide Jaw, for 5 and 6 foot Stanchions
6141-1	Strongback Adjustable Length Narrow Jaw, for 5 and 6 foot Stanchions
6141-1WR	Strongback Adjustable Length Weight Reduced Narrow Jaw, for 5 and 6 foot Stanchions
6142-1	Strongback Narrow Jaw, for 5 and 6 foot Stanchions
6131-1	Strongback Wide Jaw, for 7 foot Stanchion
6132-1	Strongback Narrow Jaw, for 7 foot Stanchion



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Important Instructions!

These instructions must be kept on file and available for the users reference at **all** times. The users must read and fully understand these instructions or have the instructions explained in detail before using this equipment. **Failure to observe these instructions could result in serious injury or death.**

Prior to use, the user must be trained in the proper use of this equipment and the process or system in which it is used.

A review of the instructions and re-training should be repeated at regular intervals or whenever the review shows that additional instruction or training is needed.

A rescue plan must be prepared; the workers must be trained in its use, and rescue equipment must be on hand prior to any use of this or any other Personal Fall Protection Equipment.

Any questions regarding these instructions should be directed to:

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Important OSHA Regulations Covering the Use of Horizontal Lifeline Systems

OSHA 1910.66 Subpart M – 1926.502 (d)(8):

Horizontal Lifelines shall be designed, installed, and used under the supervision of a qualified person as part of a complete fall arrest system, which maintains a safety factor of at least two.

OSHA 1910.66 (b):

"Qualified Person" means one with a recognized degree or professional certificate and extensive knowledge and experience in the subject field who is capable of design, analysis, evaluation, and specifications in the subject work, project, or product.

OSHA 1910.66 (b):

"Competent Person" means a person who is capable of identifying hazardous or dangerous conditions in the personal fall arrest system or any component thereof, as well as in their application and use with related equipment

OSHA 1910.66:

Personal fall arrest systems shall be rigged such that an employee can neither free-fall more than 6-ft. nor contact any lower surface.

OSHA 1910.66 (n):

The sag in the lifeline should be minimized to prevent the connecting piece of equipment (self-retracting lanyard or other appropriate personal fall arrest device) from sliding down the lifeline to a position which creates a swing hazard during a fall arrest.

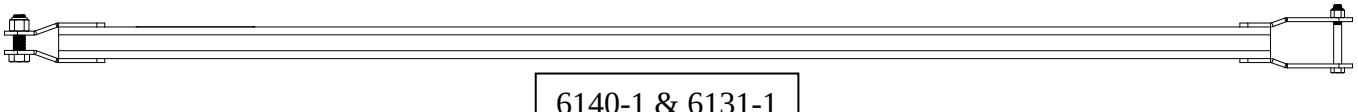
OSHA Standards, Interpretations and Compliance Letters, 02/09/1995-Criteria for personal fall arrest systems:

The free-fall distance is limited to 6 feet. The deceleration distance must not exceed 42 inches; lifeline elongation is not included in deceleration distance; and the total fall distance is unregulated except that the employee cannot make contact with a lower level…The safety factor of two should be applied based on the anticipated maximum arrest force, not the fall energy.

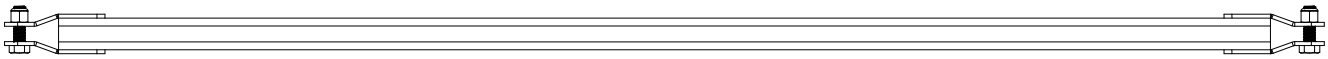
System Description

The Strongback Stanchion Stabilizing Bar is a device for securing a horizontal lifeline end stanchion in situations where the stanchion must be located at the end of the existing structure leaving little or no room for the attachment of tieback straps or cables. The Strongback Stanchion Bar acts as a compression member to provide necessary anchorage strength for horizontal lifelines. The Bar (either fixed length or adjustable length) is secured at one end to the bottom hole of the anchor lug on a 5, 6, or 7 ft. tall end stanchion using a bolt. The other end of the Bar is attached to the receiver tube or lug of an HLL Stanchion Beam Clamp (see chart below for compatibility). (Custom weld on or bolt on lugs and receiver tubes can be used with the Strongback Stanchion Bar, consult Reliance for compatibility). Once tightened in place, the Strongback Stanchion Stabilizer Bar eliminates the need for tieback straps or cables to help withstand horizontal lifeline loads at the stanchion during fall arrest.

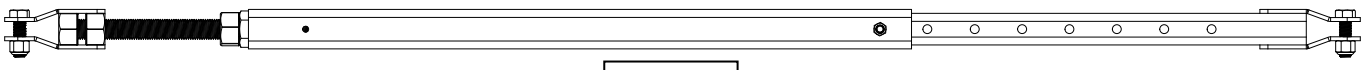
Specifications										
Model	Length	Material	Compatible Beam Clamps/Anchorages						Compatible Stanchions	
6140-1	83.5 inches	Zinc-Plated Steel	6230-1	6231-1	6233-1	6240-1	6154-1	6235-1	6151-1	6178-1
6141-1	56 to 92 inches	Zinc-Plated Steel	6230-1	6231-1	6233-1	6240-1	6158-1	-	6151-1	6178-1
6141-1WR	56 to 95 inches	Zinc-Plated Steel	6230-1	6231-1	6233-1	6240-1	6158-1	-	6151-1	6178-1
6142-1	82 inches	Zinc-Plated Steel	6230-1	6231-1	6233-1	6240-1	6158-1	-	6151-1	6178-1
6131-1	99.5 inches	Zinc-Plated Steel	6230-1	6231-1	6233-1	6240-1	6154-1	6235-1	6163-1	6180-1
6132-1	99.5 inches	Zinc-Plated Steel	6230-1	6231-1	6233-1	6240-1	6158-1	-	6163-1	-



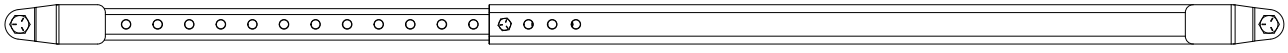
6140-1 & 6131-1



6142-1 & 6132-1



6141-1



6141-1WR

Typical Strongback Stanchion Stabilizer Bar Installation

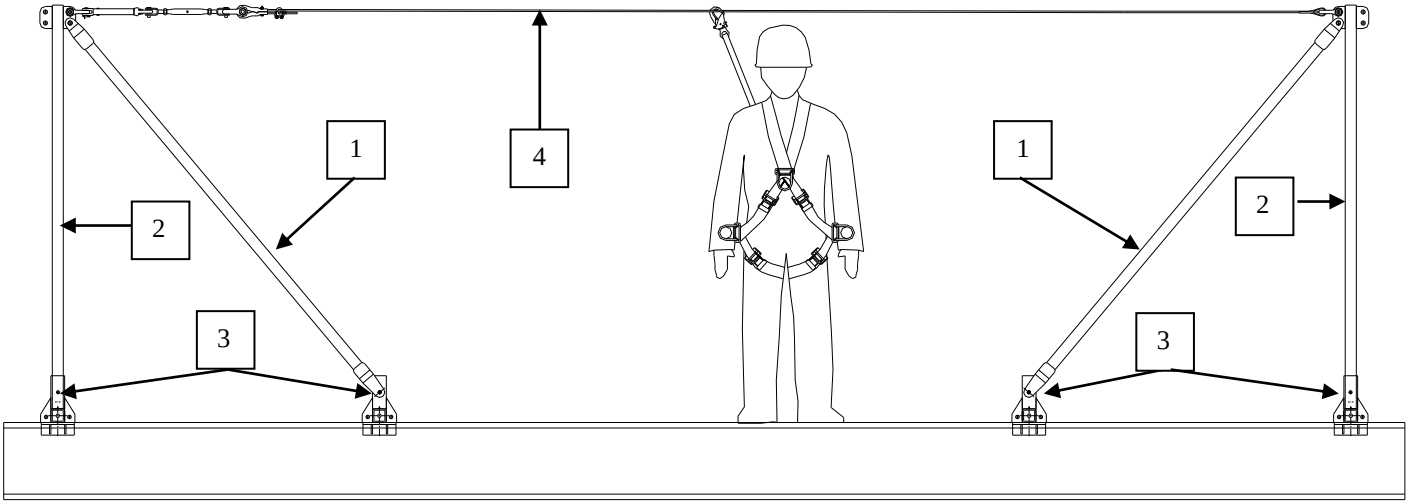


Figure 1

The typical Strongback Stanchion Stabilizer Bar Installation will include many (but not necessarily all) of the following components. Contact Reliance Engineering with questions concerning the suitability of components for your particular system design or site requirements.

1. Strongback Stanchion Bar
2. HLL End Stanchion
3. HLL Stanchion Beam Clamp
4. Skyline™ Horizontal Lifeline

Installation Considerations

CAUTION: The Strongback Stanchion Stabilizer Bar may be used to connect HLL end stanchions of 5-, 6-, or 7-ft. heights to HLL Stanchion Beam Clamps as a means to provide the needed end anchor strength for Skyline™ Horizontal Lifelines. Neither the Strongback Stanchion Bar nor the Skyline™ Horizontal Lifeline may be used as a personal fall arrest anchorage point until the entire installation procedure has been completed and the system has been certified for use by a Qualified Person.

Installation Procedures

NOTE: Approved fall protection must be worn at all times during installation of the Strongback Stanchion Stabilizing Bar, or installation must only be undertaken from an area where there exists no possibility of a fall. **DO NOT** use on beams that may dislodge if a fall occurs or that are too small or too long to carry the anticipated loads.

1. Loosen the jaw of the HLL Stanchion Beam Clamp and place over the I-beam flanges at the location where the first horizontal lifeline end stanchion will be located. After squaring the clamp to the beam, tighten the nut to a minimum of 75- to 90-ft. lb. of torque.
2. Drop end stanchion tube into receiver. Verify that the anchor lugs at the top of the stanchion are pointing in the direction where the other lifeline end stanchion will be located. Once in place, secure the stanchion with the bolt and nut.
3. Loosen the jaw of a second HLL Stanchion Beam Clamp and place over the flanges of the I-beam. Verify that the nut of the clamp is pointing in the same direction as the first clamp.
4. Attach the Strongback Stanchion Stabilizing Bar to the lower hole of the anchor lug on the same side of the stanchion where the horizontal lifeline will be attached to. Using the supplied hardware, bolt the narrow opening "dog ears" to the stanchion and secure in place with the ¾-in. bolt and nut.
5. Raise the free end of the Strongback up from the top of the I-beam and slide the HLL Stanchion Beam clamp along the I-beam until it is below the end of the Strongback.
6. Lower the Strongback down onto the receiver tube or lug of the HLL Stanchion Beam Clamp until the holes of the "dog ear" tabs line up with the holes in the Stanchion Clamp. The clamp may need to be slid along the beam surface to help with alignment. Secure the Strongback in place to the HLL Stanchion Beam Clamp with the ½-in. nut and bolt or ¾" bolt on lug..
   a. For the 6141-1 Adjustable Strongback, position the HLL Stanchion Beam Clamp in place and make the rough adjustment to the length of the bar using the sliding portion of the tube, and make the final adjustment using the threaded jaw portion of the Strongback. Lock the threaded jaw in place with the jam nut and tighten the 1/2" bolt and nut to the sliding tubes and ¾" bolt on the stanchion lugs.
   b. For the 6141-1WR adjustable Strongback, position the HLL Stanchion Beam Clamp. Attach the top of the Adjustable Strongback to the lower hole of the stanchion with the ¾" bolt and nut. Remove the ½" bolt from the Adjustable Strongback and slide the lower half to the second beam clamp and attach with the ¾" bolt and nut. Rock the End Stanchion back and forth until one of the ½" bolts holes lines up, then insert the ½" bolt and nut. Note: the holes in the 6141-1WR are setup in a "Vernier" style and only one hole will line up at a time.
7. Slide the HLL Stanchion Beam Clamp/Strongback assembly either towards or away from to help ensure that the end Stanchion is vertical. Ensure the inside angle of the Strongback and stanchion is equal to or greater than 31 degrees. Once the end stanchion is vertical and angle verified, tighten the HLL Stanchion Beam Clamp to the I-beam with a minimum 0f 75- to 90-ft. lb. of torque.
8. Repeat Steps 1 through 7 for the opposite end of the horizontal lifeline. During installation of the second end of the lifeline make sure that the tightening nuts of the HLL Stanchion Anchor Clamps are pointing in the same direction as those just installed. This helps insure that the lifeline will run straight down the length of the I-beam.

9. Install the Skyline™ Horizontal Lifeline Kit to the end stanchions following the instructions provided with your specific lifeline system.
10. Once the horizontal lifeline has been installed, verify that all fasteners have been properly tightened and retained and that the four HLL Anchor Clamps have been torqued to 75- to 90-ft. lb.
11. The system is ready to use once the load-indicating washer of the Skyline Shock Absorber is spinning freely (see Skyline™ Horizontal Lifeline Installation Manual for more information) and the Qualified Person has determined the lifeline has been positioned properly.

Removal of the Strongback Stanchion Stabilizing Bar is accomplished by following the Installation Procedures in the reverse order. DO NOT begin the removal process until all personnel have located other approved fall arrest anchorage points and have disconnected from the horizontal lifeline that is about to be removed.

Training

It is the responsibility of the employer to train all workers prior to using this system (per OSHA 1926.503 (a)(1)). The employer shall provide a training program for each employee who might be exposed to fall hazards. The program shall enable each employee to recognize the hazards of falling and shall train each employee in the procedures to be followed in order to minimize these hazards.

The employer shall assure that, as necessary, each employee has been trained by a competent person qualified in the following areas:

a. OSHA regulations governing the use of Personal Fall Arrest Systems (PFAS) and their anchorages.
b. Ability to recognize potential fall and workplace hazards.
c. Method of inspection of safety equipment.
d. Rescue procedures.
e. Installation and removal techniques.

Planning for Rescue

Prior to system use, a rescue plan must be prepared, the workers must be trained in its use, and the rescue equipment must be on hand to implement it in case of a fall.

Typical rescue plans include (but are not limited to) the following items:

1. List of equipment that must be readily accessible in the event of an emergency and the names of those workers certified to use or operate that equipment.
2. Emergency contact phone numbers (ambulance, hospital, fire department…) and a means to contact them (cell phone, emergency radio).
3. List of employees on the site, and the specific tasks they will perform to effect the rescue.
4. If a confined spacing is to be entered a confined space work permit must be filed and approved.

During installation and use of Personal Fall Arrest Systems, anchorage points should be identified, and clearly marked in such a manner as to provide a means to rescue a worker at any position in the workspace.

Inspection

Prior to each use, the worker must inspect the system for any physical damage, wear, corrosion, or malfunctioning parts. All components must be inspected according to the instructions provided with the specific product. If an inspection reveals a problem or unsafe condition, remove the entire system from service until it can be repaired, replaced or re-certified by a competent person.

A formal inspection must be carried out a minimum of once each year, and be formally documented and kept on file with the inspection documents and instruction manuals.

Servicing

A qualified person trained in the inspection and servicing of system components must carry out servicing of this product. The company's safety officer should maintain a record log of all servicing and inspection dates. This product and all components must be withdrawn from service if subjected to fall arrest forces. Those components may be returned to service only after being certified by a qualified person. Only original Reliance Industries, LLC Products supplied equipment replacement parts are approved for use in this product. Contact Reliance Industries Engineering with questions and when in need of assistance.

Warnings and Limitations

Proper care should always be taken to visually scan the work area prior to use. Remove any obstructions, debris, and other materials from, and beneath the work area that could cause injuries or interfere with the operation of this system. Be cautious of swing fall hazards if working horizontally to the side of the Skyline™ Horizontal Lifeline. Always use the shortest lanyard length possible to connect to the Skyline™ Horizontal Lifeline.

Users should be familiar with pertinent regulations governing the use of this system and its components. Only trained and competent personnel should install and use this system.

Use only Reliance Industries, LLC supplied or Reliance qualified compatible components.

Guarding Against Application Failure

To avoid property damage, injury or death, the User must take reasonable steps to prevent "Application Failure". An application failure may be any unacceptable use, misuse, or application error on the part of the User or System Designer. Because each end user might use this product in a manner different from Reliance Industries testing platform, and because the User might use this product in combination with other manufacturer's products in a manner not evaluated, contemplated, or tested by Reliance, the User or System Designer is ultimately responsible for verifying or validating the suitability and compatibility of this product for use in his application or system.

Whenever questions regarding proper use or compatibility arise, please contact Reliance Engineering at (303) 424-8650.

If you have any questions regarding the correct installation or use of this product DO NOT USE. Call Reliance Industries Engineering at Ph. (303) 424-8650 or Fax (303) 424-8670.

Inspection Log for the Strongback Stanchion Stabilizer Bar

Company: _____ Location:_____ Date:_____
Job Site: _____

Describe non-conforming conditions in the boxes below:

Inspection Criteria	Missing Parts	Labels Readable	Corrosion	Deformed Parts
Strongback tube free from cracks				
Dog ears intact and not deformed (4 ea.)				
Strongback tube straight				
Holes in dog ears not oblonged out				
Labels present and readable				

Has a Rescue Plan been prepared_____

Is Rescue Equipment on hand_____

Have workers been trained in the Rescue Procedures and been given a copy of the Rescue Plan_____