



Instructions for the following series products:

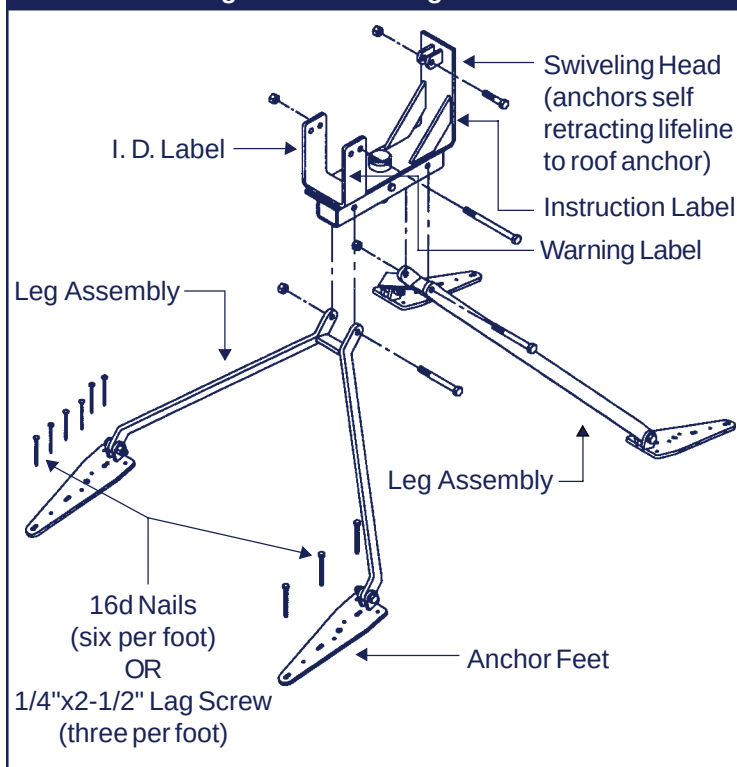
Swiveling Roof Anchor

(See back pages for specific model numbers.)

User Instruction Manual Swiveling Roof Anchor with Ultra-Lok® Self Retracting Lifeline

This manual is provided as the Manufacturer's Instructions, and should be used as part of an employee training program as required by OSHA.

Figure 1 - Swiveling Roof Anchor



DESCRIPTION

2105682: Swiveling Roof Anchor Bracket: Includes swivel base, two leg assemblies, swivel head, and fasteners. The swivel head is designed for installation of DBI/SALA Ultra-Lok® model self retracting lifelines only. The bracket legs include feet designed to allow installation of the bracket to wood structures. See Figure 1.

3505694: Swiveling roof anchor with 30 ft. Ultra-Lok® self retracting lifeline.

3503695: Swiveling roof anchor with 50 ft. Ultra-Lok® self retracting lifeline.

WARNING: This product is part of a personal fall arrest system. The users must read and follow the manufacturer's instructions for each component of the system. These instructions must be provided to the users of this equipment. The users must read and understand these instructions or have them explained to them before using this equipment. Manufacturer's instructions must be followed for proper use, care and maintenance of this product. Alterations or misuse of this product or failure to follow instructions, may result in serious injury or death.

IMPORTANT: If you have questions on the use, care, or suitability for use of this equipment, contact DBI/SALA immediately. This instruction manual is intended to be used in conjunction with the Ultra-Lok® instruction manual Form: 5902407, if one has not been supplied, contact DBI/SALA immediately.

1.0 APPLICATION

1.1 PURPOSE: DBI/SALA's 2105682, 3505694, and 3505695 roof anchors are designed to be used as temporarily installed anchorage connectors on wood frame structures. These anchorage connectors may be used as part of a personal fall arrest system. This roof anchor is specifically designed for use with DBI/SALA Ultra-Lok® self retracting lifeline models 3504430 and 3504450 and is not intended to be used with other lifeline subsystems. Do not attach a lifeline between two or more roof anchors (i.e. horizontal lifeline system). Do not hang, lift or support tools or equipment from these roof anchors or attach guylines for antennas, phone lines, etc..

1.2 LIMITATIONS: The following application limitations must be recognized and considered before using this product (also reference Ultra-Lok® instruction manual Form: 5902407):

A. ROOF STRUCTURE: These anchorage connectors (2105682, 3505694, and 3505695) are intended to be installed on wood members (roof truss, rafter, cord, etc.) between the sizes of 2 x 4 and 2 x 12 on 24 inch center. The roof structure must be capable of meeting the anchorage strength requirements as set forth in section 2.4. Consult DBI/SALA before using these roof anchors on any other roof materials (including steel).

- B. CAPACITY:** These anchorage connectors are designed for use by persons with a combined weight (person, clothing, tools, etc.) of no more than 310 lbs. Only one personal protective system may be connected to the anchorage connector at a time.
- C. PERSONAL FALL ARREST SYSTEM:** This swiveling roof anchor is specifically designed to be used in conjunction with the DBI/SALA Ultra-Lok® self retracting lifeline models 3504430 and 3504450. Other equipment selected for use with these roof anchors must meet the system performance and other criteria as stated in section 2.0.
- D. LOCKING SPEED:** Situations which do not allow for an unobstructed fall path should be avoided. Working in very confined or cramped spaces may not allow the body to reach sufficient speed to cause the SRL (self retracting lifeline) to lock should a fall occur. Working on slowly shifting material such as loose shingles may not allow enough speed build-up to cause the SRL to lock. A similar situation may occur on low pitched roofs where a worker may slide instead of fall. A clear path is needed to assure positive locking of the SRL.
- E. CORROSION:** Use near sea water or other corrosive environments may require more frequent inspections or servicing (replacement) to assure corrosion damage is not affecting the performance of the product.
- F. CHEMICAL HAZARDS:** Solutions containing acids, alkali, or other caustic chemicals, especially at elevated temperatures may cause damage to this equipment. Consult DBI/SALA if doubts exists concerning installing this equipment where chemical hazards are present.
- G. ELECTRICAL HAZARDS:** Do not install roof anchors where they or the user may come into contact with electrical power lines.
- H. TRAINING:** This equipment must be installed and used by persons who have been properly trained in its correct application and use. Installation and use of this equipment must be supervised by a qualified person, as defined by OSHA fall protection standards.

- 1.3** Refer to national consensus (including ANZI Z359.1), applicable local, state, and federal (OSHA) requirements governing this equipment for more information on anchorage connectors, and associated system components.

2.0 SYSTEM REQUIREMENTS

- 2.1 COMPATIBILITY OF COMPONENTS:** DBI/SALA equipment is designed for use with DBI/SALA approved components and subsystems only. Substitutions or replacements made with non-approved components or subsystems may jeopardize compatibility of equipment and may affect the safety and reliability of the complete system.
- 2.2 COMPATIBILITY OF CONNECTORS:** Connectors are considered to be compatible with connecting elements when they have been designed to work together in such a way that their sizes and shapes do not cause their gate mechanisms to inadvertently open regardless of how they become oriented. Contact DBI/SALA if you have any questions about compatibility.

Connectors (hooks, carabiners, and D-rings) must be capable of supporting at least 5,000 lbs. (22.2kN). Connectors must be compatible with the anchorage or other system components. Do not use equipment that is not compatible. Non-compatible connectors may unintentionally disengage. See Figure 2. Connectors must be compatible in size, shape, and strength. Self locking snap hooks and carabiners are required by ANSI Z359.1 and OSHA, and in Canada, by CSA Z259.12.

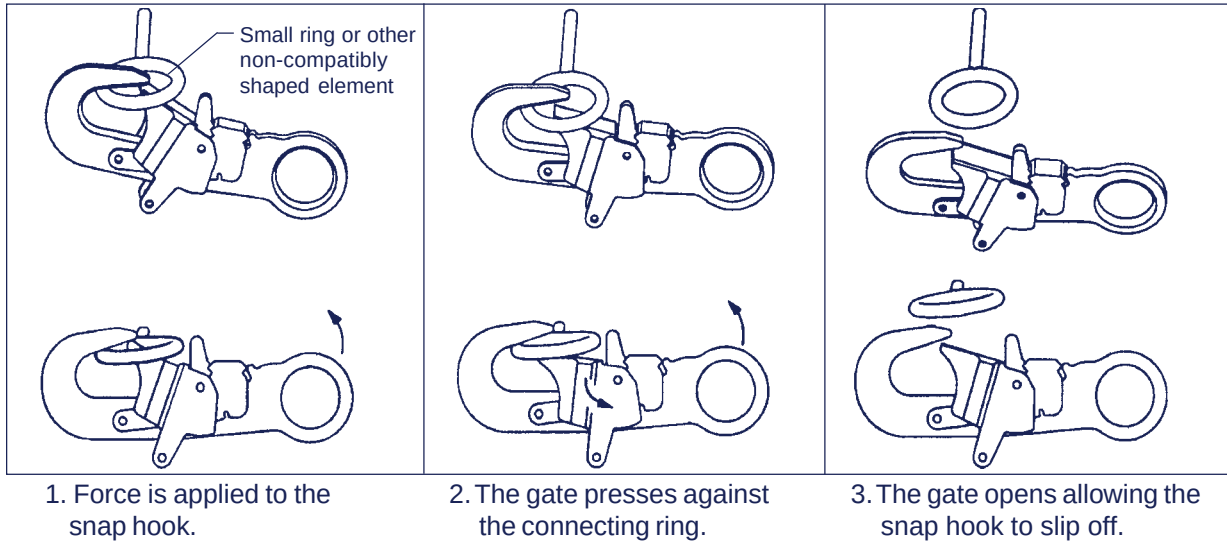
- 2.3 MAKING CONNECTIONS:** Only use self-locking snap hooks and carabiners with this equipment. Only use connectors that are suitable to each application. Ensure all connections are compatible in size, shape and strength. Do not use equipment that is not compatible. Ensure all connectors are fully closed and locked.

DBI/SALA connectors (snap hooks and carabiners) are designed to be used only as specified in each product's user's instructions. See Figure 3 for inappropriate connections. DBI/SALA snap hooks and carabiners should not be connected:

- A.** To a D-ring to which another connector is attached.
- B.** In a manner that would result in a load on the gate.

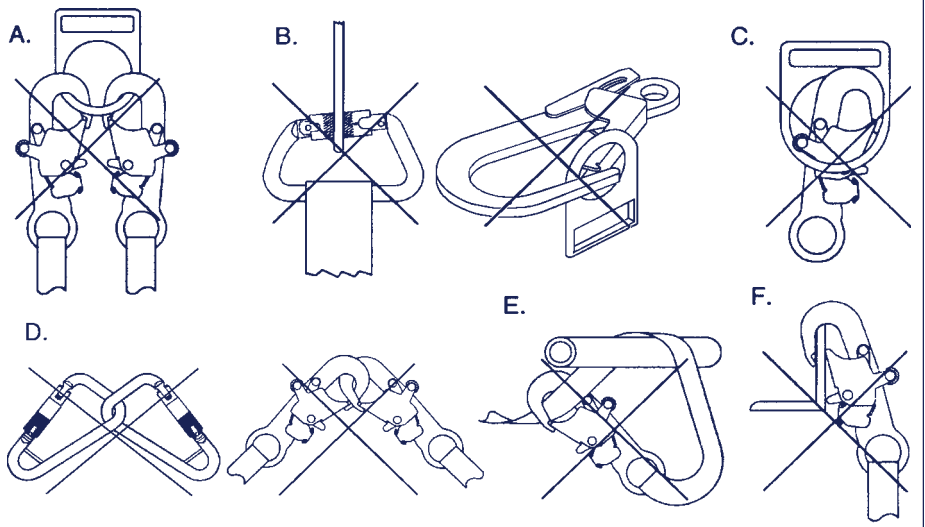
Figure 2 - Unintentional Disengagement (Roll-out)

If the connecting element that a snap hook (shown) or carabiner attaches to is undersized or irregular in shape, a situation could occur where the connecting element applies a force to the gate of the snap hook or carabiner. This force may cause the gate (of either a self-locking or a non-locking snap hook) to open, allowing the snap hook or carabiner to disengage from the connecting point.



NOTE: Large throat opening snap hooks should not be connected to standard size D-rings or similar objects which could result in a load on the gate if the hook or D-ring twists or rotates. Large throat snap hooks are designed for use on fixed structural elements such as rebar or cross members that are not shaped in a way that can capture the gate of the hook.

Figure 3 - Inappropriate Connections



C. In a false engagement, where features that protrude from the snap hook or carabiner catch on the anchor and without visual confirmation seems to be fully engaged to the anchor point.

D. To each other.

E. Directly to webbing or rope lanyard or tie-back (unless the manufacturer's instructions for both the lanyard and connector specifically allow such a connection).

F. To any object which is shaped or dimensioned such that the snap hook or carabiner will not close and lock, or that roll-out could occur.

2.4 ANCHORAGE STRENGTH: The anchorage to which the roof anchor is installed must meet minimum strength(s) as given below for the applications selected:

FALL ARREST: Per ANSI Z359.1 - Anchorages selected for personal fall arrest systems (PFAS) shall have a strength capable of sustaining static loads in the direction(s) permitted by the PFAS when in use of at least (A) 3,600 lbs (16kN when certification exists) (reference ANSI Z359.1 for certification definition), or (B) 5,000 lbs. (22.2 kN) in absence of certification. When more than one PFAS is attached to an anchorage, the anchorage strengths set forth in (A) or (B) above shall be multiplied by the number of PFAS attached to the anchorage.

Per OSHA 1926.500 and 1910.66 - Anchorages used for attachment of personal fall arrest systems (PFAS) shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 lbs. per user attached, or be designed, installed and used as part of a complete PFAS which maintains a safety factor of at least two and is under the supervision of a qualified person.

3.0 OPERATION AND USAGE

WARNING: Do not alter or intentionally misuse this equipment. Consult with DBI/SALA if using this equipment in combination with components or subsystems other than those described in this manual. Some subsystems and components combinations may interfere with the proper operation of this equipment.

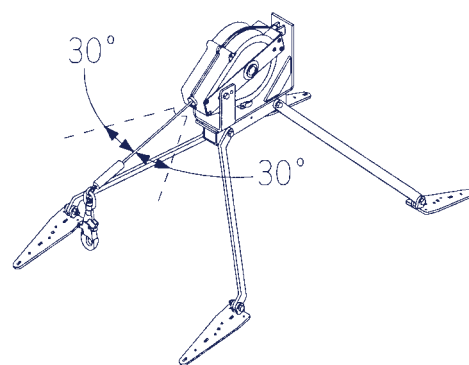
WARNING: Do not use this equipment if you are unable to tolerate the impact from a fall arrest. Age and fitness can seriously affect your ability to withstand a fall. Pregnant women and minors must not use this equipment.

3.1 BEFORE EACH USE of this equipment, carefully inspect it to assure that it is in serviceable condition. Check for worn or damaged parts. Ensure roof anchor is secure and not distorted. Inspect for sharp edges, burrs, cracks, or corrosion. Inspect other fall arrest equipment in accordance with manufacturer's instructions (Ultra-Lok® instruction manual Form: 5902407). Refer to section 5.0 for further inspection details. Do not use if inspection reveals an unsafe condition.

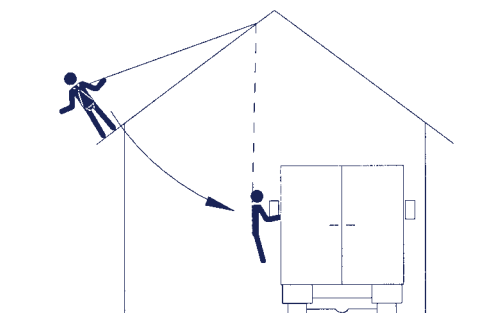
3.2 PLAN your fall arrest system before starting your work. Take into consideration factors affecting your safety at any time during use. The following list gives some important points you must consider when planning your system:

- A. ANCHORAGE:** Select an anchorage point that is rigid and capable of supporting the required loads. See section 2.4. Locate roof anchor in accordance with section 3.3.
- B. OTHER CONSIDERATIONS:** Personal fall arrest systems must be rigged to limit any free fall to a maximum of 6 feet (OSHA and ANSI Z359.1). Avoid working above your anchorage level since an increased free fall distance will result. Avoid working where your line may cross or tangle with that of other workers or objects. Do not allow the lifeline to pass under arms or between legs. Never clamp, knot, or prevent the lifeline from retracting or being taut. Avoid slack line. Do not lengthen the SRL by connecting a lanyard or other components without consulting DBI/SALA. Should a fall occur, there must be sufficient clearance in the fall area to arrest the fall before striking the ground or other object. The total fall distance is the distance measured from the onset of a fall to the point where the fall is arrested. A number of factors can influence total fall distance including; user's weight, anchorage location relative to the fall (swing fall), body support with sliding D-ring, etc.
- D. SWING FALLS:** Swing falls occur when the anchorage point is not directly above the point where a fall occurs. The force of striking an object while swinging (horizontal speed of the user due to the pendulum affect) can be great and may cause serious injury. Swing falls can be minimized by working as directly below the anchorage point as possible. The SRL will activate (lock-up) regardless of it's orientation and location relative to the user's position, however, a commonly followed guideline is not to extend your work zone over 30° from the overhead

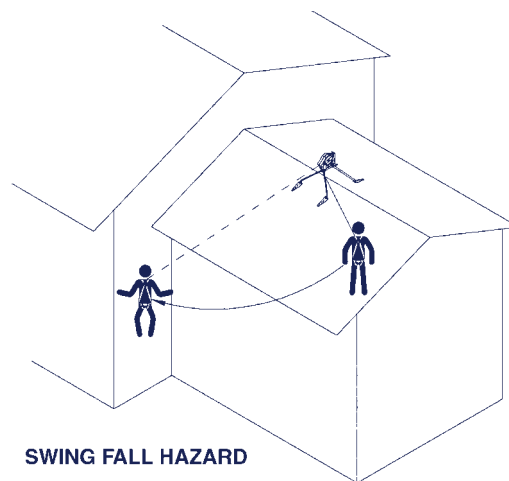
Figure 4 - Swing Fall



WORKING RANGE



GABLE END SWING FALL



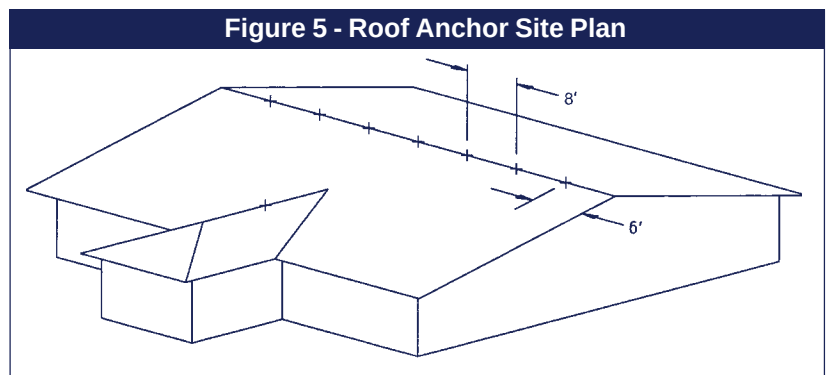
SWING FALL HAZARD

anchorage point (roof anchor swivels providing a work area on both sides of the roof ridge/anchor). See Figure 4. Also in a swing fall situation, the total vertical fall distance of the user will be greater than if the user had fallen vertically directly below the anchorage point. The user must therefore account for an increase in the total free fall distance and the area needed to safely arrest the fall. Do not captivate the lifeline of a self retracting lifeline, it may affect the performance of its braking. If a swing fall hazard exists in your application, contact DBI/SALA before proceeding.

- E. SHARP EDGES:** Avoid working where the connecting subsystem (i.e. self retracting lifeline, full body harness, etc.) or other system components will be in contact with, or abrade against unprotected sharp edges. If working with this equipment near sharp edges is unavoidable, protection against cutting must be provided by using a heavy pad or other means over the exposed sharp edge. A energy absorbing component can sometimes be added in-line to further protect the worker. Compatibility and total fall distance issues must be considered if this is done. Contact DBI/SALA before using in-line energy absorbing components or lanyards with self retracting lifelines.
- F. RESCUE:** Should a fall occur, the user (employer) must have a rescue plan and the means at hand to implement it.
- G. AFTER A FALL:** Any equipment which has been subjected to the forces of arresting a fall must be removed from service immediately and destroyed or contact factory authorized service center for repair.

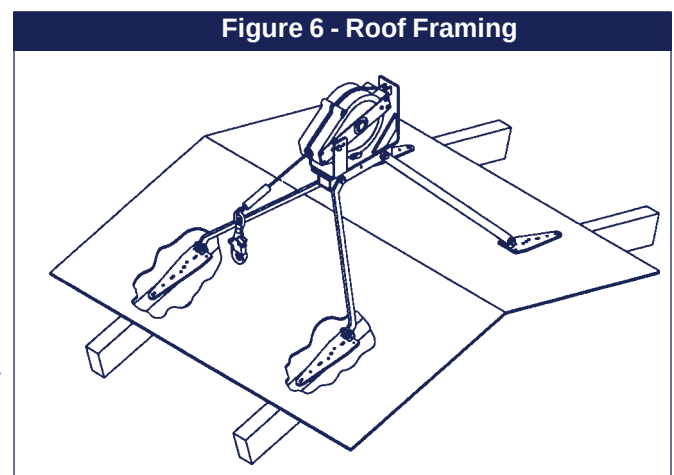
3.3 INSTALLATION REQUIREMENTS:

- A. ROOF ANCHOR SITE PLAN:** Before starting the roof construction, a plan should be established as to where the roof anchor(s) will be installed and when during the construction process they may be used. See Figure 5. The following are guide lines on locating roof anchors:



- The roof anchor should be located at the roof peak and at least 6 ft. away from any exposed roof edge. On very small roof areas, locate the roof anchor as far from the roof edge as possible. The roof anchor can also be installed on the flat portion of the roof; caution should be used to prevent lifeline wear on peak if working on the opposite side of roof where anchor is installed.
- Do not install roof anchors on fascia board or unsupported roof structure such as eaves or gable overhangs.
- Anchors should be installed at 8 ft. spacing along roof ridge.
- On long low pitched roofs, multiple roof anchors should be installed along gable ends (6 feet from edge) to reduce swing fall hazards. Anchors acceptable for this application include the models 2103672 and 2103673 roof anchors.

- B. ROOF FRAMING:** Roof framing members to which the roof anchors are attached must be in good condition. Members must be free of splits, cracks, large knots or other defects that may weaken the member. Figure 6 shows how the anchor would look once in place. The roof framing structure must be capable of withstanding the loads given in section 2.4.



- C. ROOF ANCHOR INSTALLATION:** Roof anchors must be installed in accordance with the previously

discussed site plan. Site work rules must be followed regarding when an installed anchor is ready for use (i.e. properly braced, etc.). The roof anchor must not be attached or used until the sheathing is in place. Do not install the roof anchor on top of existing shingles or roofing material. The roof anchor's leg pads must stay directly on top of wood sheathing.

ASSEMBLY INSTRUCTIONS: The legs must be attached to the body of the roof anchor (see Figure 7). Attach each set of legs (two legs per set) to the roof anchor with one 3/8" bolt and nylon insert nut. Tighten until nut is securely against leg, the leg should still rotate freely. The self retracting lifeline mounts to the swiveling roof anchor with two 3/8" bolts and nylon insert nuts and has an alternative attachment point. See Figure 7.

ATTACHING THE ROOF ANCHOR: Adjust the legs and feet to match the surface it will be mounted on, the roof peak. Position the anchor on the roof so the lag screw/nail holes on the anchor feet are centered over a roof (framing) member (must be on 24" center and 2 x 4 minimum). See Figure 8. Then push down the feet to minimize any gap between the anchor and the sheathing and install twelve 1/4" x 2-1/2" or longer lag screws (three per foot, 3/16" diameter or smaller pilot holes may be drilled for easier installation of lag screws) or twenty-four 16d nails (six per foot). The lag screws and nails are included with the roof anchor. When nailing the DBI/SALA roof anchors to the roof (framing) member, splitting may occur in some hard wood materials. If your material is susceptible to splitting, predrilling is **REQUIRED!** For the size 16d nail supplied with the roof anchor, drill a 1/8" diameter hole 2" to 2 1/2" deep. After holes are drilled, pound in nails fully to install anchor. See Figure 8. See section 5.0 for pre-use inspection.

WARNING: The lag screws or nails must go through the sheathing and into the roof member. If they do not, the anchor will not hold the rated loads and serious injury or death could occur.

WARNING: Use only 16d nails (twenty-four total, six per foot) or 1/4" x 2-1/2" or longer lag screws (twelve total, three per foot). Do not reuse nails when reinstalling the roof anchor. Use only new 16d size nails (or 1/4" x 2-1/2" or longer lag screws).

D. REMOVAL OF ROOF ANCHOR: Remove the roof anchor prior to shingling the area

Figure 7- Assembly

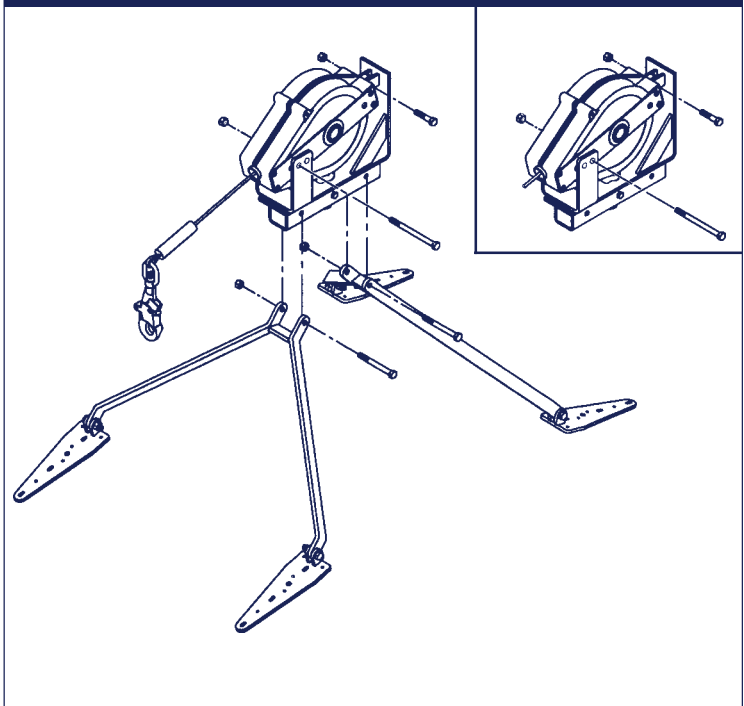
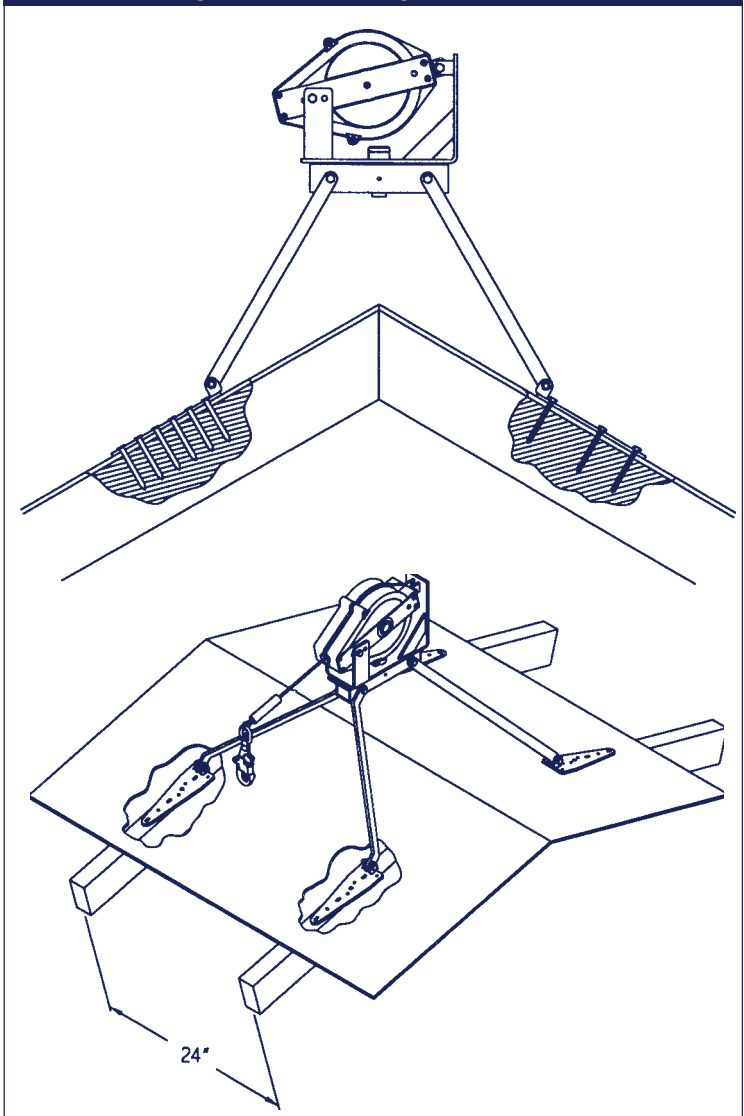


Figure 8 - Attaching Roof Anchor

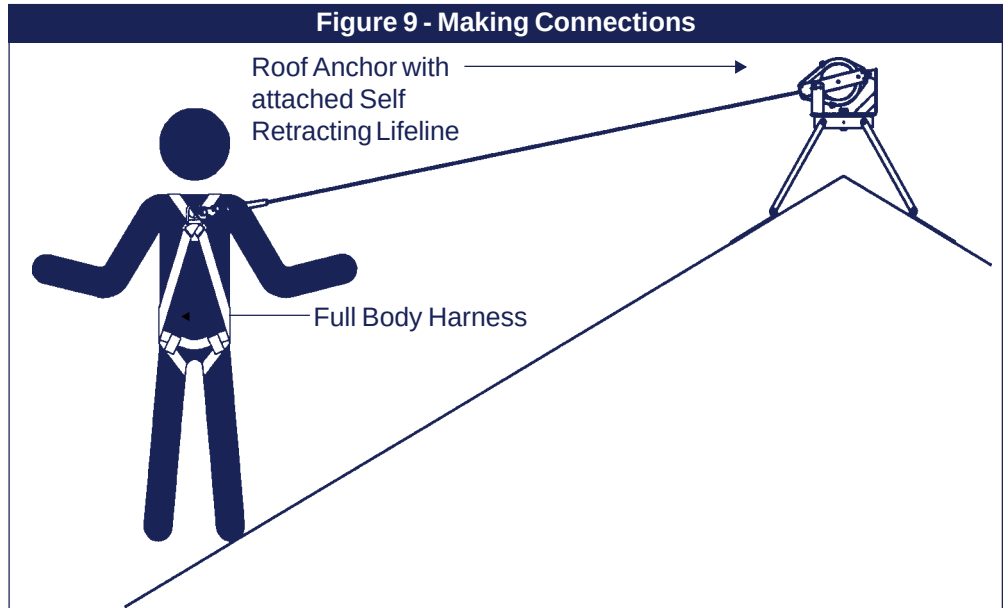


with the anchor. To remove it, unscrew the lag screws or pull the nails and remove. The roof anchor is removable and designed to be reinstalled following inspection per section 5.0.

- 3.4 BODY SUPPORT:** When using the DBI/SALA swiveling roof anchor with attached Ultra-Lok® self retracting lifeline, it is recommended that a full body harness be worn. For general fall protection use, connect to the D-ring on the back between the shoulders (dorsal D-ring).

IMPORTANT: For most free fall situations, body belts are not recommended for use. Body belts increase the risk of injury during fall arrest in comparison to a full body harness. Limited suspension time and the potential for improperly wearing a body belt may result in added danger to the user's health. If belts are worn, adjust snugly around the waist (not down on hips) and position the D-ring in the center of your back side.

- 3.5 MAKING CONNECTIONS:** When using a hook to make a connection, be certain accidental disengagement (roll-out) cannot occur. Roll-out occurs when interference between a hook and the mating connector causes the hook's gate or keeper to accidentally open and release. Self locking snap hooks or self locking and self closing gate carabiner must be used to reduce the possibility of roll-out when making connections. Do not use hooks or connectors that will not completely close over the attachment object. Do not use non-locking snap hooks. Always follow the manufacturer's instruction supplied with each system component. See Figure 9.



- 3.6 CONNECTING TO ROOF ANCHOR:** Connection to the installed roof anchor may be made by attaching the self locking snap hook at the end of the Ultra-Lok's® lifeline to the back dorsal D-ring (fall arrest attachment point) of the user's body support (i.e. full body harness). When connecting, make sure connections are fully closed and locked. Figure 9 illustrates proper connection of typical fall arrest equipment to the roof anchor. Always protect lifeline from abrading against sharp or abrasive surfaces on the roof. Make sure all connections are compatible in size, shape and strength. Never connect more than one personal protective system to any single roof anchor at a time.
- 3.7 NORMAL OPERATION:** Once attached, the worker is free to move about within recommended working areas (30° from anchor) at normal speeds. The device will allow up to 30 ft. (3505694) or 50 ft. (3505695) of the lifeline to extend and retract. Should a fall occur, a speed sensing brake system will activate, stopping the fall and absorbing much of the energy created. If a fall has been arrested, the system must be taken out of service and inspected, see section 5.0. Sudden or quick movements should be avoided during the normal work operation since this may cause the SRL to lock-up.

NOTE: This series of SRL's incorporate a new brake system with a cam rocker brake engagement that creates an audible indicator (clicking sound) which informs the user that the brake pawl system is working properly. For further information on the Ultra-Lok® self retracting lifeline, refer to the instruction manual Form: 5902407.

WARNING: Read and follow manufacturer's instructions for associated equipment (i.e. full body harness, self retracting lifeline, etc.) used in your personal fall arrest system.

IMPORTANT: For special (Custom) versions of this product, follow the instructions herein. If enclosed, see attached supplement for additional instructions to be followed when using a customized product.

4.0 TRAINING

- 4.1** It is the responsibility of the user and the purchaser of this equipment to assure they are familiar with these instructions, trained in the correct care and use of, and are aware of the operating characteristics, application limits and the consequences of improper use of this equipment.

IMPORTANT: Training must be conducted without exposing the trainee to a fall hazard. Training should be repeated periodically.

5.0 INSPECTION

- 5.1 FREQUENCY:** Before each use visually inspect per steps listed in section 5.2 and 5.3

IMPORTANT: If this equipment has been subjected to forces resulting from the arrest of a fall, it must be immediately removed from service and destroyed or returned to DBI/SALA for possible repair. See section 5.2.

- 5.2 INSPECTION STEPS:** (refer to instruction manual Form: 5902407 for Ultra-Lok® inspection procedures)

- Step 1.** Inspect the Roof Anchor for physical damage. Look carefully for any signs of cracks, dents or deformities in the metal. Make certain the legs and feet are not deformed in any way and that they pivot correctly.
- Step 2.** Inspect the Roof Anchor for signs of excessive corrosion. Make certain the anchor swivels 360° properly and that the Ultra-Lok® self retracting lifeline is attached to the anchor correctly.
- Step 3.** Ensure the condition of the roof anchor will support the Roof Anchor loads, see section 2.4. An anchor connected to rotten or deteriorated wood should not be used.
- Step 4.** Ensure the Roof Anchor is still securely attached to roof structure. See section 3.3.
- Step 5.** Inspect each system component or subsystem (i.e. self retracting lifeline, full body harness, etc.) per associated manufacturer's instructions.
- Step 6.** Record the inspection date and results on the inspection log. See section 9.0.

- 5.3** If inspection reveals an defective condition, remove unit from service immediately and destroy, or contact a factory authorized service center for repair.

IMPORTANT: Only DBI/SALA or parties authorized in writing may make repairs to this equipment.

6.0 MAINTENANCE - SERVICING - STORAGE

- 6.1** Clean the swivelling roof anchor with a mild soap detergent solution. Excessive build-up of dirt, tar, etc. may prevent the anchor from working properly. A small amount of oil or grease can be applied to the anchor to help swiveling action. If you have any questions concerning the condition of your roof anchor, or have any doubt about putting it into service, contact DBI/SALA immediately. Refer to Form: 5902407 manufacturer instruction for maintenance - servicing - storage procedures on the Ultra-Lok® self retracting lifeline.
- 6.2** Additional maintenance and servicing procedures (i.e. replacement parts) must be completed by a factory authorized service center. Authorization must be in writing.

7.0 SPECIFICATIONS

7.1 COMPONENTS:

A. **MATERIALS:** Cold rolled / hot rolled steel

FINISH: Black E-coat paint

STATIC LOAD CAPACITY: Strength of system maintains a minimum safety factor of 2 as required by OSHA when according to this user instruction manual (reference OSHA 1926.502 and 1910.66)

WEIGHT: 2105682 = 23 lbs. - 3505694 = 34 lbs. - 3505695 = 38 lbs.

SIZE: 2105682 = 27" x 42" x 25" - 3505694 = 27" x 42" x 26" - 3505695 = 27" x 42" x 26-1/2"

CAPACITY: 310 lbs. (one person)

8.0 LABELING

8.1 These labels should be securely attached to the roof anchor and fully legible.

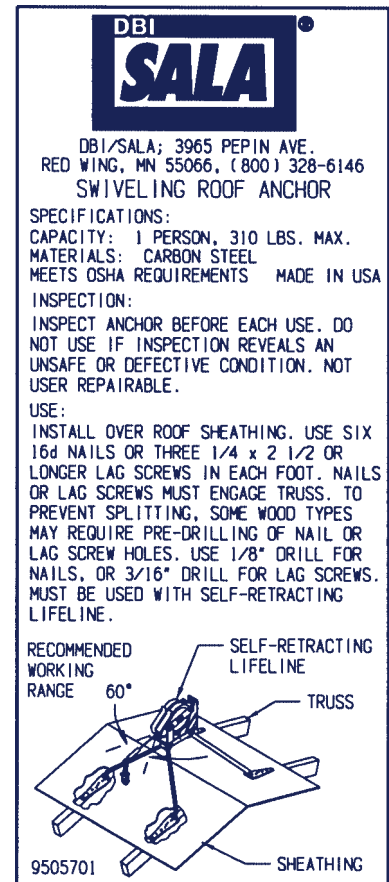
WARNING LABEL



I. D. LABEL



INSTRUCTION LABEL



9.0 INSPECTION AND MAINTENANCE LOG

DATE OF MANUFACTURE: _____

MODEL NUMBER: _____

DATE PURCHASED: _____

INSPECTION DATE	INSPECTION ITEMS NOTED	CORRECTIVE ACTION	MAINTENANCE PERFORMED
Approved By: _____			
Approved By: _____			
Approved By: _____			
Approved By: _____			
Approved By: _____			
Approved By: _____			
Approved By: _____			
Approved By: _____			
Approved By: _____			
Approved By: _____			
Approved By: _____			

9.0 INSPECTION AND MAINTENANCE LOG

DATE OF MANUFACTURE: _____

MODEL NUMBER: _____

DATE PURCHASED: _____

[illegible]

This instruction applies to the following models:

2105682

Additional model numbers may appear on the next printing of these instructions.



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This manual is available for download at www.salagroup.com.



Form: 5906131
Rev: C