

**OPERATION AND INSTRUCTION  
MANUAL  
CHAIN ROOF ANCHOR  
MODEL: A210403**

	<p><b>WARNING:</b> ALL USERS OF THIS EQUIPMENT MUST READ AND UNDERSTAND ALL INSTRUCTIONS. FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH. USERS SHOULD BE FAMILIAR WITH PERTINENT REGULATIONS GOVERNING THIS EQUIPMENT. ALL USERS OF THIS PRODUCT MUST BE PROPERLY INSTRUCTED ON HOW TO USE THE DEVICE. AVOID CONTACT WITH PHYSICAL HAZARDS (THERMAL, CHEMICAL, ELECTRICAL, ETC.). MAKE ONLY COMPATIBLE CONNECTIONS.</p>
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# Read This Instruction Manual Carefully Before Using This Equipment.

User Instructions must always be available to the user and are not to be removed except by the user of this equipment. For proper use, see supervisor, User Instructions, or contact the manufacturer. Werner Co. can provide additional information upon request.



Compliant fall protection and emergency rescue systems help prevent serious injury during fall arrest. Users and purchasers of this equipment must read and understand the User Instructions provided for correct use and care of this product. All users of this equipment must understand the instructions, operation, limitations and consequences of improper use of this equipment and be properly trained prior to use in accordance with applicable standards. All references to "applicable standards" refer to ANSI, OSHA, state, local, and/or federal standards that apply to approved use. The local competent person must keep these instructions, make them available to users, and require their use.

**Misuse or failure to follow warnings and instructions may result in serious personal injury or death.**

## PURPOSE

The A210403 is an anchorage connector designed to function as an interface between the anchorage and a fall arrest, work positioning, rope access, or rescue system for the purpose of coupling the system to the anchorage. Any references to "anchorage connector" in this manual include, and apply to, the A210403.

## USE INSTRUCTIONS

1. A user must be of sound mind and body to properly and safely use this equipment in normal and emergency situations.
2. Before using a personal fall arrest system, user must be trained in accordance with the requirements of applicable standards in the safe use of the system and its components.
3. Only use with systems that comply with applicable standards. The anchorage must have the strength capable of supporting a static load, applied in the directions permitted by the system, of at least 5,000-lbs (22kN) in the absence of certification.
4. The user shall be equipped with a means of limiting the maximum dynamic forces exerted on the user during the arrest of a fall to a maximum of 1800-lbs (8kN). In the EU these forces must be limited to 1350-lbs (6kN).
5. Use of this product must be approved by an engineer or other qualified person (as defined by OSHA 29 CFR 1926.32 (m)) to be compatible with any and all structural & operational characteristics of the selected installation location and system to be connected to this anchorage connector.
6. The anchorage connector must be inspected prior to each use for wear, damage, and other deterioration. If defective components are found the anchorage connector must be immediately removed from service in accordance with applicable standards and the manufacturer's inspection requirements.
7. The anchorage connector should be positioned in such a way that minimizes the potential for falls and the potential fall distance during use. The complete fall arrest system must be planned (including all components, calculating fall clearance, and swing fall) before using.
8. A rescue plan, and the means at hand to implement it, must be in place that provides the prompt rescue of users in the event of a fall, or assures that users are able to rescue themselves.
9. After a fall occurs the anchorage connector must be removed from service and destroyed immediately.

**USE LIMITATIONS:** This anchorage connector has been tested in compliance with the requirements of ANSI/ASSE Z359.7. Compliance testing covers only the hardware and does not extend to the anchorage and substrate to which the anchorage connector is attached. The anchorage connector must not be used outside its limitations or for any purpose other than that for which it is intended. If this anchorage connector is used differently from these instructions it must be designed, installed, and used under the supervision of an engineer according to ANSI Z359.6 and local building codes as applicable.

1. The anchorage connector is designed for single user.
2. The anchorage connector may only be loaded as shown in the LOADING CONDITIONS DIAGRAM.
3. Fasteners must be replaced after each installation.
4. The anchorage connector is designed to be used in temperatures ranging from -40°F to +130°F (-40°C to +54°C).
5. Do not expose the anchorage connector to chemicals or harsh solutions which may have a harmful effect.
6. Do not alter or modify this product in anyway.
7. Caution must be taken when using any component of a fall arrest, work positioning, rope access, or rescue system near moving machinery, electrical hazards, sharp edges, or abrasive surfaces, as contact may cause equipment failure, personal injury, or death.
8. Do not use/install equipment without proper training by a "competent person" as defined by OSHA 29 CFR 1926.32(f).
9. Do not remove the labeling from this product.
10. Additional requirements and limitations may apply depending on anchorage type and fastening option utilized for installation. All placements must be approved by an engineer or other qualified person.
11. This anchorage connector should not be used as part of a horizontal lifeline system that has not been designed and/or approved to be used with 5,000-lbs (22kN) anchorage connectors.
12. The anchorage connector should only be used as intended.
13. When installing multiple anchorage connectors along the roof peak there should be an 8 foot (2.4m) spacing between each anchorage connector.
14. If attaching the anchorage connector to the support structure by methods other than instructed, the attachment must be certified by a qualified person to meet the requirements of the system that will connect to the anchorage connector.

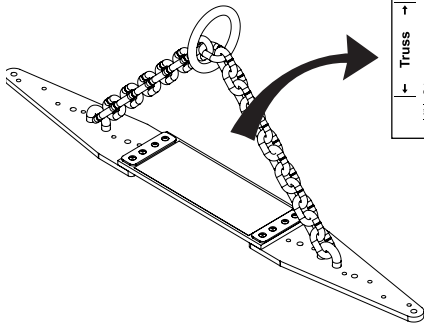
## COMPATIBILITY LIMITATIONS

Anchorage connector must only be coupled to compatible connectors. OSHA 29 CFR 1926.502 and 1910.140 prohibits snaphooks from being engaged to certain objects unless two requirements are met: it must be a locking type snaphook, and it must be "designed for" making such a connection. "Designed for" means that the manufacturer of the snaphook specifically designed the snaphook to be used to connect to the equipment listed. The following connections must be avoided, because they can result in rollout\* when a nonlocking snaphook is used:

- Direct connection of a snaphook to horizontal lifeline.
- Two (or more) snaphooks connected to one D-ring.
- Two snaphooks connected to each other.
- A snaphook connected back on its integral lanyard.
- A snaphook connected to a webbing loop or webbing lanyard.
- Improper dimensions of the D-ring, rebar, or other connection point in relation to the snaphook dimensions that would allow the snaphook keeper to be depressed by a turning motion of the snaphook.

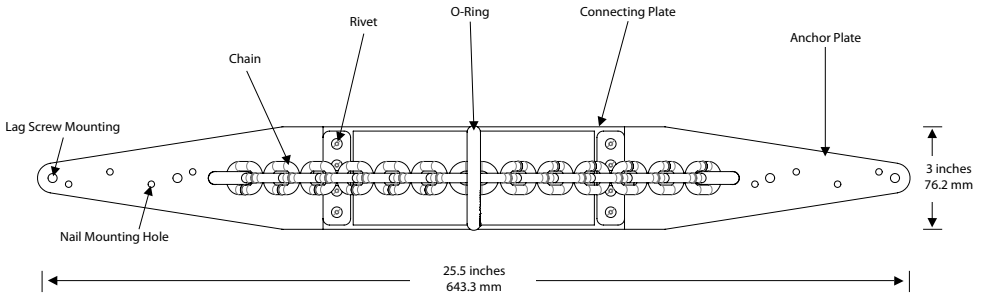
**\*Rollout: A process by which a snaphook or carabiner unintentionally disengages from another connector or object to which it is coupled. (ANSI Z359.0-2007)**

## LABEL LOCATIONS

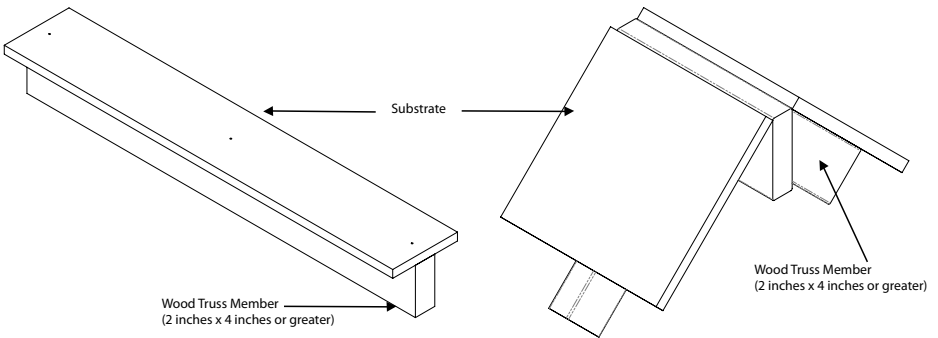


<b>WERNER</b>		Roof Peak	<b>SPECIFICATIONS:</b>	
Chain Roof Anchor Model: A2116403			Materials: Zinc-plated steel & Rubber	
↑ TRUSS	↓ TRUSS	This product complies with the standards as marked:		
		• OSHA 1910.140 & 1926.502		
See instruction manual for complete installation procedures, limitations, and restrictions on directions of loading.		Lag Bolt Installation		
Date of Manufacture: MM/YYYY		Minimum Breaking Strength (MBS): 5,000 lbs (22kN)		
Batch: CRA-XXXX		Nail Installation		
INSPECT BEFORE USE		Minimum Breaking Strength (MBS): 3,600 lbs (16kN)		
↓ TRUSS		↓ TRUSS		

## TERMS & DIMENSIONS



## ANCHORAGE REQUIREMENTS



- Only install in Wood Truss Members\* with minimum nominal thickness of 2 inches (1.5 inches actual) and a nominal height of 4 inches (3.5 inches actual) or greater that have been rated as “stud quality or better” with a substrate of plywood, chipboard, or other similar sheet.
- Anchorage must be capable of supporting 5,000-lbs (22 kN) or be designed, installed, used under supervision of a qualified person, and as part of a complete personal fall arrest system that conforms to the relevant OSHA/ANSI specifications.
- Wood Truss Member and all other structural members supporting it must be free of voids, rot, decay, and any other factors that may reduce anchorage strength below previous requirements. Additional factors that may significantly affect the lumber strength include but are not limited to: species, grade, knots, splits, cracks, certain grain qualities, moisture content, and temperature.
- A Qualified Person must determine if a specific installation location will meet all ANCHORAGE REQUIREMENTS.

## PERFORMANCE:

### Minimum Breaking Strength:

Lag Screw Installation: 5,000-lbs (22kN)

Nail Installation: 3,600-lbs (16kN)

**Maximum Capacity:** One person when used as a single point anchorage connector for personal fall arrest or restraint system

### DIMENSIONS:

**Weight:** 1.94 lbs. (0.88kg)

**Plate Thickness:** 1/4 inch

### REGULATORY COMPLIANCE:

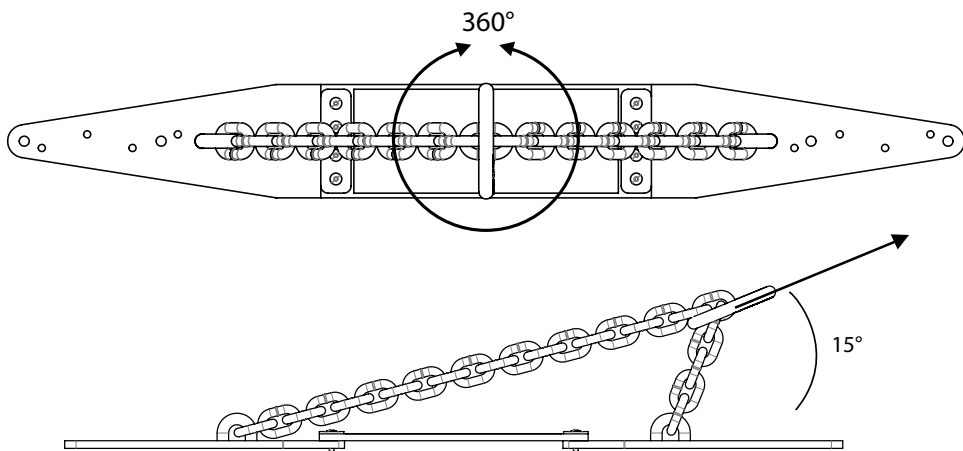
OSHA 1926.502, OSHA 1910.140

### COMPONENT MATERIALS:

**Rubber:** Connecting Plate

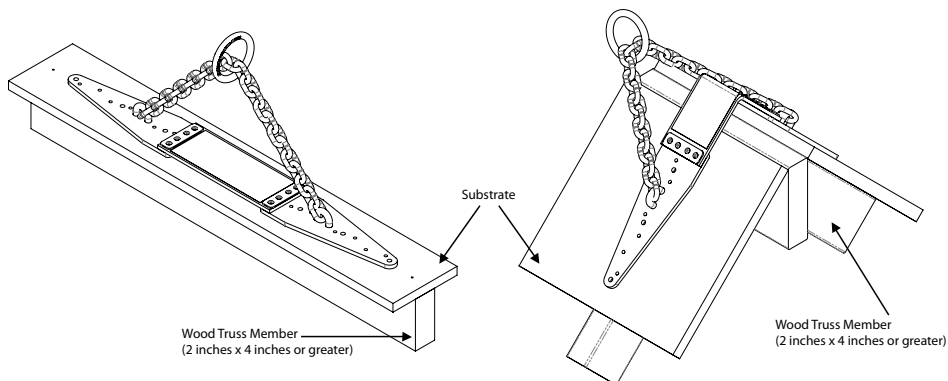
**Zinc Plated Steel:** Anchor Plate, Chain, O-Ring, Rivet Plate, Rivets

## INSTALLATION WITH LAG BOLTS LOADING CONDITIONS DIAGRAM



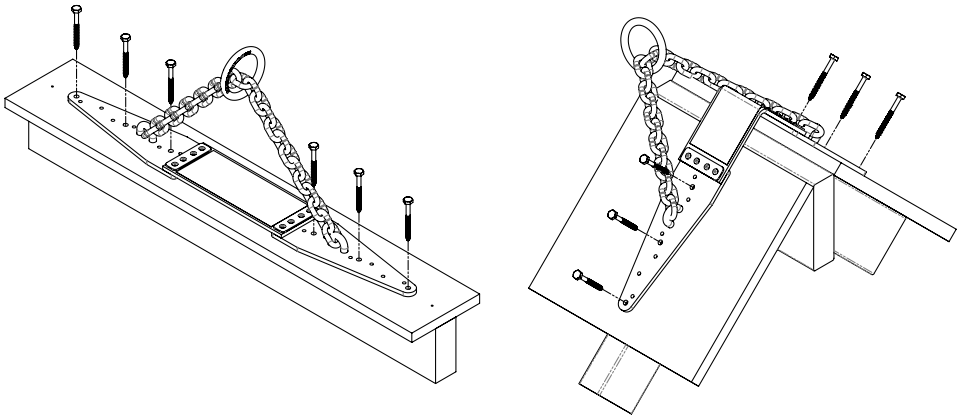
When installed with six M6 x 80mm grade 2 lagbolts or six 1/4 inch x 3 inches grade 2 lag bolts the anchorage connector is rated for loading at 360° (horizontally) and up to 15° (vertically) as shown in the LOADING CONDITIONS DIAGRAM. Loading at any angle outside of this range is not permitted and may result in anchor failure. **Misuse or failure to follow warning and instructions may result in serious personal injury or death.**

## INSTALLATION PROCEDURE

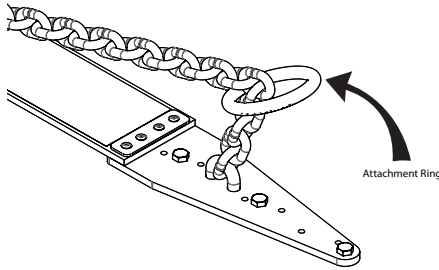


1. Choose a location either on the field or over the roof ridge at least 6 feet from the roofs edge and directly over a wood truss member\* where all holes will allow fastener penetration through the sheathing substrate to the truss below. A qualified person must determine if a specific installation location will meet all ANCHORAGE REQUIREMENTS.

\*If the wood truss member cannot be located accurately underneath the substrate the location cannot be used.

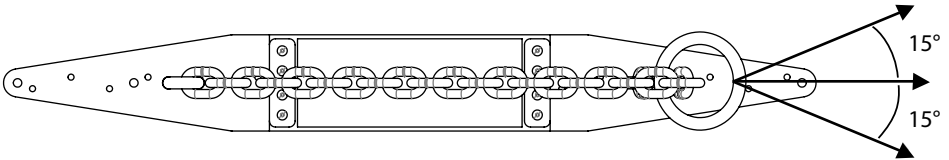


2. Drill a 3/32 inch pilot hole in all six lag bolt holes and drive in the six provided M6 x 80mm lag bolts with a 10mm hex socket or six 1/4 inch x 3 inches grade 2 lag bolts with a 7/16 inch hex socket. The head of each bolt should lie flush with the anchor plate. Do not over tighten bolts. Proper installation requires all six lag bolts to be fastened without stripping. Installation for PFAS with lag bolts creates an OSHA compliant 5000-lbs anchorage connector within the intended direction of loading.



3. Connect personal fall arrest system (PFAS) to Attachment Ring. PFAS must limit fall arrest forces to 1800-lbs (8KN) or less.

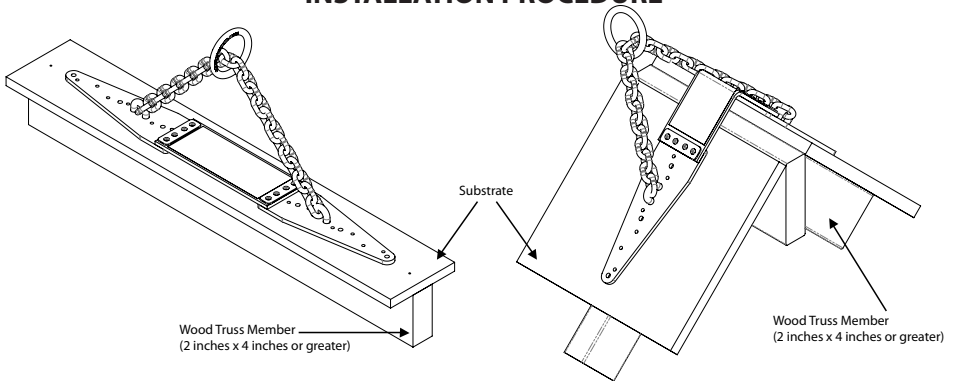
## INSTALLATION WITH NAILS LOADING CONDITIONS DIAGRAM



When installed with twelve 16D 3-1/2 inch spiral nails the anchorage connector is only rated for loading at a maximum of 15° horizontally from the centerline as shown in the LOADING CONDITIONS DIAGRAM. Loading at any angle outside of this range is not permitted and may result in anchor failure. Do not apply load at an incline to the anchor plate.

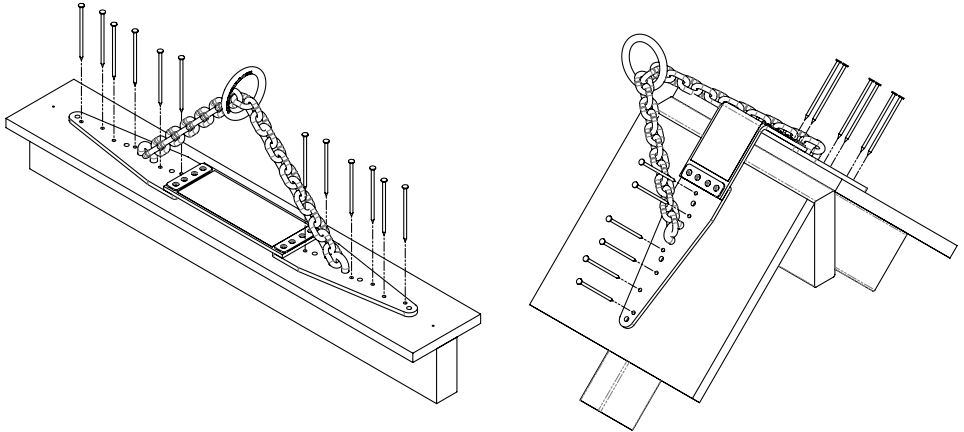
**Misuse or failure to follow warning and instructions may result in serious personal injury or death.**

# INSTALLATION PROCEDURE

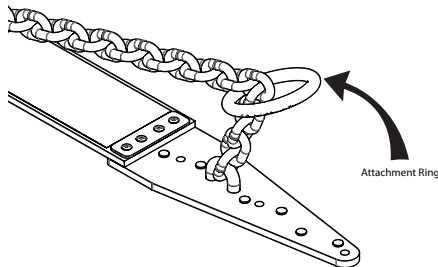


1. Choose a location either on the field or over the roof ridge at least 6 feet from the roofs edge and directly over a wood truss member\* where all holes will allow fastener penetration through the sheathing substrate to the truss below. A qualified person must determine if a specific installation location will meet all ANCHORAGE REQUIREMENTS.

\*If the wood truss member cannot be located accurately underneath the substrate the location cannot be used.



2. For installation with nails, drive in twelve 16D 3-1/2 inch spiral nails. The head of each nail should lie flush with the anchor plate. Installation for PFAS with nails creates an OSHA compliant 3,600-lbs anchorage connector within the intended direction of loading.



3. Connect personal fall arrest system (PFAS) to Attachment Ring. PFAS must limit fall arrest forces to 1800-lbs (8KN) or less.

## **MAINTENANCE, CLEANING AND STORAGE**

Cleaning periodically will prolong the life and proper functioning of the product. The frequency of cleaning should be determined by inspection and by severity of the environment. Clean with compressed air and/or a stiff brush using plain water or a mild soap and water solution. Do not use any corrosive chemicals that could damage the product. Wipe all surfaces with a clean, dry cloth and hang to dry, or use compressed air. When not in use, store anchorage connectors in a cool, dry, clean environment, out of direct sunlight and free of corrosive or other degrading elements.

\*It is essential for the safety of the end user that if this product is re-sold outside the original country of destination the reseller shall provide instructions for use, maintenance, and for periodic examination and repair in the language of the country in which the product is to be used.

## **INSPECTION AND MAINTENANCE LOG**

**MODEL NUMBER:** \_\_\_\_\_

**DATE OF MANUFACTURE:** \_\_\_\_\_

<b>Date</b>	<b>Part Number</b>	<b>Comments</b>	<b>Inspector Name</b>

### **Inspection:**

Official periodic inspection must be made at least annually. The inspection must be performed by a competent or qualified person other than the intended user. If severe weather or environmental conditions exist then inspections must be carried out more frequently. All inspection results must be logged in the space provided above. (It is recommended that the anchor device is marked with the date of the next or last inspection.)

1. Make sure all labeling is affixed to the unit.
2. Inspect anchoring system for signs of damage or wear.
3. Record inspection results in the space provided above.

**\*If inspection reveals any damage that could affect the strength or operation of the device, inadequate maintenance, or an unsafe condition, proper disposal is required. The anchorage connector must be rendered unusable and then properly discarded.**

**WARNING: It is essential to the safety of the end user that the seller of this device include all instructions pertaining to the proper use, maintenance and inspection of the device in the language of the country in which the product is to be sold.**

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