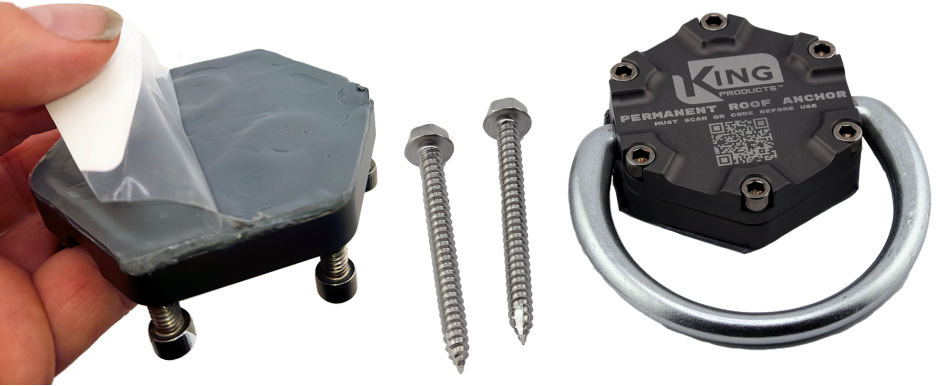




# Permanent Roof Anchor

## Lag-It & Leave-It

# INSTRUCTION MANUAL



## Instruction Manual

Read and understand these instructions before using equipment

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# WARNING

Compliance with fall protection equipment is vital and should strictly align with its intended design and the hierarchy of controls delineated in ANSI Z359.2. Users are mandated to all provided user instructions. Prior to employing a fall arrest system, individuals must receive comprehensive training in its safe utilization, as mandated by OSHA 29 CFR 1910.30 and 1926.503, or pertinent local safety regulations. Neglecting to comply with these guidelines and instructions could lead to severe injury or fatality.

# WARNING

This product serves as a component within a personal fall arrest system, requiring correct pairing with other elements to establish a comprehensive and operational system. Users must grasp the functionality of each component, adhere to the manufacturer's stipulated guidelines for deployment, and seek guidance from a competent supervisor for any clarification.

Employers are tasked with furnishing training on the proper utilization, examination, and upkeep of all system components, with these instructions serving as a key part of the training regimen. Strict adherence to these instructions, local regulations, OSHA and ANSI standards, and the employer's safety protocols is imperative. Any deviations from these protocols or misuse of the product may lead to severe injuries or fatalities.

**If any components are missing or damaged, remove this anchor from roof.**



## Introduction

Thank you for your purchase of the King Products Permanent Roof Anchor. It's imperative to read the manual thoroughly, comprehend all instructions, and integrate them into an employee training program, as mandated by OSHA and applicable state regulations. Additionally, all instructions, including those accompanying the Permanent Roof Anchor, are made accessible to the user of the equipment via our inspection software found by using the QR code etched into the lid of the anchor. The user must have a comprehensive understanding of the proper and safe use of the Permanent Roof Anchor, as well as all other fall safety equipment combined with it.

## Applicable Safety Standards

When utilized in accordance with its prescribed instructions, this product meets or exceeds all relevant standards for fall protection, including OSHA 1926 Subpart M, OSHA 1910, ANSI Z359.18-2017, and ANSI A10.32-2012. Additionally, this product has undergone testing in conformity with the requisites of ANSI/ASSE Z359.7. It's important to note that the applicable standards and regulations are contingent on the type of work being performed and may also include regulations that are specific to a particular state. For further information regarding personal fall arrest systems and their associated components, it's recommended that you consult with regulatory agencies.

## Worker Classifications



Understand the following definitions of those who work near or who may be exposed to fall hazards.

**Qualified Person:** A person who has obtained an accredited degree or certification and possesses extensive experience or professional standing, demonstrating proficiency in planning and evaluating the conformity of fall protection and rescue systems.

**Competent Person:** A person who is highly trained and experienced and is **designated by the employer** to take charge of all aspects of a fall safety program, including regulation, management, and implementation. They possess the necessary skills and knowledge to identify potential and current fall hazards and have the authority to halt work to eliminate any impending dangers.

**Authorized Person:** A person who is assigned by the employer to work in proximity to or be exposed to potential or existing fall hazards.

**It is the responsibility of a Qualified or Competent Person to oversee the job site and ensure all safety regulations are followed.**



## 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:** The Permanent Roof Anchor is designed for use in Fall Arrest applications and can support a maximum of one PFAS (personal fall arrest system). The structure should be able to withstand loads applied in the directions permitted by the system of at least 5,000 lbs. It's important to note that the maximum free fall allowed is 6', but it can be extended to 12' if utilized in conjunction with equipment explicitly certified for such use. The applicable D-rings are Dorsal.

**Restraint:** The Permanent Roof Anchor offers a valuable solution for Restraint applications. Restraint systems aim to prevent workers from reaching the leading edge of a fall hazard. Always ensure that the fully deployed length of the lanyard is taken into account. The structure must be capable of withstanding loads applied in the directions allowed by the system of at least 1,000 lbs. It's essential to note that free fall is not allowed. Restraint systems should only be employed on surfaces with slopes up to 4/12 (vertical/horizontal).

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

### Limitations

**Fall Clearance:** Fall Clearance is of utmost importance to ensure safety. It is crucial to maintain adequate clearance below the anchorage connector to arrest a fall before the user strikes the ground or any obstruction. When determining fall clearance, it's essential to account for various factors, including a MINIMUM 2' safety factor, deceleration distance, user height, length of lanyard/SRL, harness stretch, and all other applicable factors.

**Swing Falls:** It's crucial to take appropriate steps to eliminate or minimize all swing fall hazards before installation or use. Swing falls occur when the anchor point is not directly above the location where a fall might occur. To mitigate the risk, always work as close to being in line with the anchor point as possible. Swing falls significantly increase the likelihood of severe injury or even fatality in case. It's recommended to eliminate Swing Fall wherever feasible. In cases where Swing Fall is unavoidable, it's critical to account for additional fall clearance.

**Compatibility:** When connecting with Permanent Roof Anchor, it's vital to eliminate all possibilities of roll-out. Roll-out occurs when interference between a hook and the attachment point causes the hook gate to unintentionally open and release, leading to severe consequences. It's imperative to ensure all connections are compatible with Permanent Roof Anchor and selected and deemed compatible by a competent person. All connector gates must be self-closing and self-locking, capable of withstanding minimum loads of 3,600 lbs.



## Compatibility

King Products equipment is only designed for use with King Products approved components. Substitutions or replacements made with non-approved components may jeopardize compatibility of equipment and may affect the safety and reliability of the complete system.

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 King Products 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. Connectors must be compatible in size, shape, and strength. Self locking snap hooks and carabiners are required by ANSI Z359 and OSHA.

The following application limitations must be recognized and considered before using this product:

**ROOF STRUCTURE:** This anchorage connector is intended to be installed on wood framed structures capable of meeting the anchorage strength requirements. Consult King Products before using these roof anchors on any other roof material.

**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.

**CHEMICAL HAZARDS:** Solutions containing acids, alkali, or other caustic chemicals, especially at elevated temperatures, may cause damage to this equipment. Consult Werner Co. if doubt exists concerning installing this equipment where chemical hazards are present.

**ELECTRICAL HAZARDS:** Do not install roof anchors where they or the user may come into contact with electrical power lines.



IMMEDIATELY remove from use if exposed to forces of fall arrest  
This Anchor is not designed for use with a Horizontal Life Line  
MAXIMUM 1 connection per Permanent Roof Anchor  
DO NOT Side-Load

## Limitations

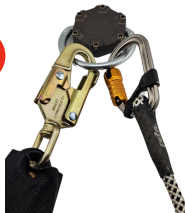
See the following for examples of compatible/incompatible connections:

Connector closed and locked to D-ring. Two connectors to same D-ring

Incompatible application which may heighten the risk of a roll-out.



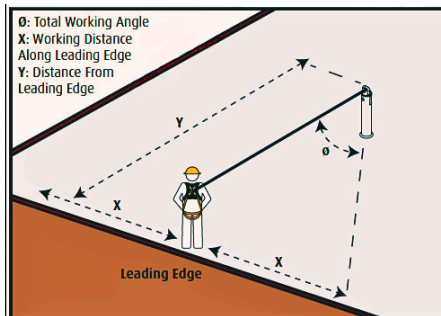
Two or more snap hooks or carabiners connected to each other



## Correct Anchorage Positioning:

This chart outlines the recommended working zones to minimize the risk of swing falls and improper side loading.

It's imperative to follow the information provided by the chart at all times.



Anchor Distance From Leading Edge (Y)	Working Distance Along Roof Edge (Either Direction) (X)	Working Angle From Perpendicular ( $\theta$ )
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.



## Before Using the Permanent Roof Anchor

Prior to using this equipment, users must take specific steps to verify its suitability and safety. Reading and comprehending these instructions is crucial. Employers bear the responsibility of ensuring that all users receive adequate training in safe work procedures, as well as understanding the use and limitations of fall protection equipment.

It is imperative that all users are familiar with and adhere to relevant OSHA, ANSI, and local or regional regulations governing fall protection equipment and its usage. Compliance with these standards is essential to promote a safe working environment and prevent potential hazards associated with fall protection.

### Inspect

Examine all equipment thoroughly and comply with safety inspection provided through the QR Code on the lid of the Permanent Roof Anchor.

1. Before installation of this equipment, carefully inspect it to ensure it is in serviceable condition.
2. The Permanent Roof Anchor requires an annual inspection by a competent person other than the user. Access the inspection log by scanning the QR code on the lid of the Permanent Roof Anchor to review the results of each formal inspection. During inspection, check the Roof Anchor for any physical damage, including signs of dents, cracks, or deformities in the metal.
3. Inspect the Roof Anchor for indications of excessive corrosion.
4. Confirm the roof's condition can support the Roof Anchor load, and do not use an anchor connected to rotten or deteriorated wood.
5. Ensure that the Roof Anchor remains securely attached; if it's loose, refrain from use.
6. Inspect each system component or subsystem per associated manufacturer's instructions.
7. Record the inspection findings in the inspection log by scanning the QR code on the lid of the Roof Anchor.
  - o If a smartphone is not available during the inspection, resort to a manual inspection following paper log guidelines. Take a photo of the QR Code for later reference and log the inspection data when smartphone service becomes available. Ensure that the manual inspection is detailed and comprehensive, covering all necessary aspects specified in the inspection guidelines. Later, transfer this recorded information into the appropriate digital log for documentation and reference.
8. Verify that all labels are intact, in place, and legible.
9. In the event of a defective condition or abnormalities in any of these areas, immediately remove the unit from service. Consult a competent person to determine if the item is safe for continued use or if it should be decommissioned.



## Fall Protection Plan

Carefully plan your fall arrest or restraint system before commencing work. Consider all factors that could impact your safety throughout its use. The following list outlines key points to take into account when planning your system:

**ANCHORAGE:** Select an anchorage point that is rigid and capable of supporting the required loads. Locate the roof anchor in accordance with Section II.

**PERSONAL FALL ARREST SYSTEM REQUIREMENT (PFAS):** PFAS's used with this roof anchor must meet applicable OSHA, state, federal, and ANSI requirements. PFAS's incorporating a full body harness must be capable of arresting a worker's fall with maximum arresting force of no greater than 1,800 lbs. and limiting the free fall distance to 6 feet or less. Reference ANSI Z359 and OSHA requirements.

**FREE FALL:** PFAS's must be rigged to limit any free fall to a maximum of 6 feet (OSHA and ANSI Z359.1). Restraint systems must be rigged such that no vertical free fall is possible. Avoid working above your anchorage level since an increased free fall distance will result.

**RESTRAINT SYSTEMS:** Restraint systems must meet applicable state and federal requirements.

**FALL CLEARANCE:** Should a fall occur, there must be sufficient clearance in the fall area to arrest the fall before striking the ground or other objects. The actual clearance required is dependent upon the type of fall arrest connecting subsystem used (energy absorbing lanyard, self retracting lifeline, etc.). Refer to manufacturer's instructions for fall clearance information.



Do not alter or intentionally misuse this equipment. Do not use this equipment with components or subsystems other than those described in this manual. Unapproved subsystem and component combinations may interfere with the operation of this equipment. Use caution when using this equipment around moving machinery, electrical hazards, chemical hazards, and sharp edges.





## Components and Specifications

Type A anchorage connector.

Minimum permitted service temperature: -30° F.

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

Materials: aluminum body, stainless steel fasteners, zinc-plated forged steel D-ring, butyl adhesive

### Installation and Use

#### MINIMUM substrate thickness requirements:

- Wood: 3/4" (total combined).
- Metal: 20g.

In both asphalt shingle and metal roof applications the Permanent Roof Anchor must be lagged into a roof framing member

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 defects that may weaken the member. Do not attach the roof anchor to rotted or deteriorated wood.

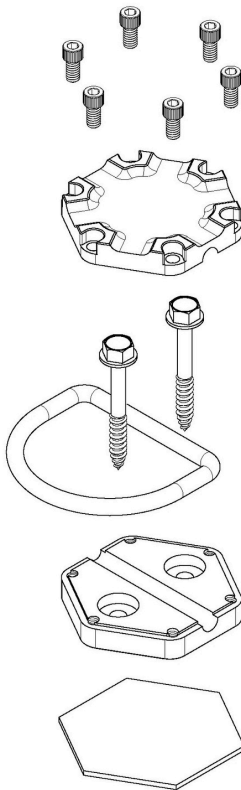
#### Compatible roof pitch:

- Installed into roof truss: 0/12 - 12/12.
- Installed on flat surface: 0/12 - vertical/sheer.

Never install past shear (such as on underside of beam or slab).

#### Substrate fastener requirements:

- Wood: 2 - 5/16 x 3.5" lag bolts
- Metal: 2 - 5/16 x 3.5" lag bolts



It's critical to comprehend and adhere to safety regulations to prevent severe injury or fatalities. While the regulations outlined here are not an exhaustive list, they serve as a point of reference and should not replace the judgment or understanding of a Competent Person, who should possess knowledge of both federal and state standards.



## Installation and Use

Step 1: The primary action item is to identify an appropriate installation site for the Permanent Roof Anchor. It's important to verify that the location is devoid of debris, rot, decay, cracks, or any hazardous materials. It's crucial to note that the anchor should never be installed on a substrate that is incapable of withstanding the minimum loads required for the intended application.

**WARNING**

NEVER load anchor improperly. Prior to installation, refer to anchorage positioning chart (pg. 3) to ensure installation location will satisfy intended work application(s).

Step 2: Consider eliminating or minimizing potential hazards associated with swing falls.

Step 3: Verify that all fasteners used are either those provided by King Products or approved by a Competent Person as compatible and equivalent.

Step 4: The Permanent Roof Anchor must be installed flush against the substrate, ensuring that all fasteners are fully embedded in the substrate.

Step 5: The Permanent Roof Anchor can be used along with a horizontal lifeline (HLL) system. However, it's crucial to ensure that the HLL is installed parallel to the Permanent Roof Anchor. Furthermore, any activities related to the setup, installation, and utilization of HLLs should be conducted under the guidance of a Qualified Person.

6. Attach a complete and compatible Personal Fall Arrest System (PFAS) to the Permanent Roof Connection Point.

### Wood & Metal Install:

- Into truss or support beam. Use (2) fasteners in fastener installation holes.

**The Permanent Roof Anchor is only designed for use on metal and asphalt shingle applications. User assumes all risk should this be used on shake, tile, slate, concrete or any other material other than metal or asphalt shingle.**

**WARNING**

It's crucial not to over-torque lags and cap head screws, as it may lead to damage and unsafe installation. These screws are not suitable for use in multiple installation applications. Every installation must use new fasteners provided in packaging. Removing the anchor from its initial location will damage the roof and the anchor is not to be used more than once.



## Installation Summary

This summary simplifies the process of installing a permanent roof anchor. Please note that all instructions should be reviewed prior to installation.

- Remove all components from the box and verify all parts are accounted for:
  - (1) Lid
  - (1) Base
  - (1) D-ring
  - (6) six 1/4"-20 Cap Screws
  - (2) two 5/16 in x 3.5 in Stainless Lag Screws
  - Butyl Adhesive attached to the bottom of the base
- Additional Tools Required:
  - Power Drill
  - 3/16 in Drill Bit - 3.5 in Long
  - 1/2 in Socket
  - 3/16 in Allen Wrench
  - Fall Protection Gear

### Installation Instructions:

1. For installation, ensure the roof structure is sound.
2. Choose a location for the anchor and find the roof truss.
3. Peel back the sheet from the butyl adhesive located at the bottom of the roof anchor base.  
**TIP:** The anchor should be placed within the edges of the shingle, not over them.
4. Position the anchor over the truss and press down.
5. Remove the 6 - cap screws, Lid, and D-Ring
6. Pre-drill a 3/16" pilot hole the two holes found in the top and bottom Permanent Roof Anchor base.
7. Tighten down the lag bolts until the base is seated to the roof. You'll know the anchor is securely fastened when the butyl is bulging around the edges.
8. Insert the D-ring in the slot and cover with the lid.
9. Insert all (6) six 1/4"-20 cap screws into the outside holes and tighten them one at a time in a star pattern.
10. Give the roof anchor a pull to confirm that it is secured to the roof.
11. Scan QR code with smartphone and complete initial inspection

### **WARNING**

Compliance with fall protection equipment is vital and should strictly align with its intended design and the hierarchy of controls delineated in ANSI Z359.2. Users are mandated to all provided user instructions. Prior to employing a fall arrest system, individuals must receive comprehensive training in its safe utilization, as mandated by OSHA 29 CFR 1910.30 and 1926.503, or pertinent local safety regulations. Neglecting to comply with these guidelines and instructions could lead to severe injury or fatality.



## Maintenance, Cleaning, and Storage

To ensure optimal safety, it's crucial to abide by the following guidelines regarding The Permanent Roof Anchor:

- In the event of any failure during inspection, it's essential to remove the Permanent Roof Anchor from service immediately. End-users should not attempt to repair or service this item in the field.
- It is advisable to remove dirt, corrosives, and contaminants before each use. If plain water is insufficient, use mild soap and water, rinse, and wipe dry. It is crucial to avoid cleaning the Permanent Roof Anchor using any corrosive substances.
- When not in use, store the equipment in an area free from heat, light, excessive moisture, chemicals, or other degrading elements.
- Please note the adhesive material used to adhere the anchor is considered permanent. Once placed it cannot be removed without serious damage to the shingle underneath.

## Inspection

Prior to each use, it's critical to examine the Permanent Roof Anchor for any deficiencies or defects, such as corrosion, deformation, pits, burrs, rough surfaces, sharp edges, cracking, rust, paint buildup, excessive heating, alteration, and missing or illegible labels. If any defects or damage are found or exposed to forces of fall arrest, it's crucial to remove the Permanent Roof Anchor from service immediately.

Additionally, it's vital to ensure that the work area is free of any damage, debris, rot, rust, decay, cracking, and hazardous materials. The selected work area must be stable enough to support the application-specific minimum loads specified in the instruction manual.

Moreover, before each use, a Competent Person, other than the user, must inspect the Permanent Roof Anchor. These inspections must be recorded in the inspection log, which is accessible by scanning the QR code on the lid of the Permanent Roof Anchor. The Competent Person must complete the provided inspection form and save it in the safety inspection log, which is specific to each individual anchor.

## Inspection Log

Product lifetime is indefinite, as long as it passes pre-use and Competent Person inspections. A Competent Person must inspect prior to EACH use and log said inspection in the provided inspection software. This inspection must be completely filled out and saved in the safety inspector log. Any separate inspection logs will not be acceptable for the Permanent Roof Anchor. All inspection records are available and visible to all users at all times via the Safety Inspector Application by scanning the QR code on the lid of the Permanent Roof Anchor.

**If equipment fails inspection IMMEDIATELY REMOVE FROM SERVICE.**



## Safety Information

It is strictly prohibited to alter or misuse equipment. Prior to selecting any fall protection equipment, a Competent Person should evaluate workplace conditions, including flame, corrosive chemicals, electrical shock, sharp objects, machinery, abrasive substances, weather conditions, and uneven surfaces. The assessment should anticipate where workers will perform their duties, routes taken to reach the work area, and potential and existing fall hazards. The Competent Person should choose fall protection equipment that accounts for all potential hazardous workplace conditions. All fall protection equipment should be purchased new and in unused condition.

A Competent Person must oversee the selection and installation of fall protection systems, ensuring they are used in a compliant manner and designed to meet federal, state, and safety regulations. The forces applied to anchors must be calculated by the Competent Person. The maximum allowable free fall distance for lanyards is 6', unless explicitly stated otherwise.

Harnesses and connectors should comply with the manufacturer's instructions and be compatible in size and configuration. Snap hooks, carabiners, and other connectors must be selected and applied compatibly, with the elimination of all risks of disengagement. All snap hooks and carabiners must be self-locking and self-closing and never connected to each other.

A pre-planned rescue procedure, specific to each project, is mandatory in case of a fall. The rescue plan must provide employees with a means of self-rescue or prompt rescue by others. Rescue equipment should be readily accessible and clearly marked.

It is imperative that Authorized Persons undergo training, provided by a Competent Person, on the correct procedures for erecting, disassembling, inspecting, maintaining, storing, and using equipment. The training should include the ability to identify fall hazards, minimize their likelihood, and the proper use of personal fall arrest systems.

Under no circumstances should fall protection equipment be used to hang, lift, support, or hoist tools or equipment unless explicitly certified for such use.

Equipment that has experienced a fall arrest must be immediately removed from use.

Age, fitness, and health conditions can significantly impact a worker should a fall occur. If there is any doubt about a user's ability to withstand and safely absorb fall arrest forces or perform equipment set-up, they should consult a physician. Pregnant women and minors are prohibited from using this equipment.

Even if fall safety equipment operates as intended, physical harm may still occur. Extended post-fall suspension can result in significant injury or death. Trauma relief straps should be utilized to mitigate the effects of suspension trauma.



# Permanent Roof Anchor

## Lag-It & Leave-It

### INSPECTION FORM

If a smartphone is not available during the inspection, resort to a manual inspection following paper log guidelines. Take a photo of the QR Code for later reference and log the inspection data when smartphone service becomes available. Ensure that the manual inspection is detailed and comprehensive, covering all necessary aspects specified in the inspection guidelines. Later, transfer this recorded information into the appropriate digital log for documentation and reference.

I am a competent person capable of certifying that the device is installed per manufacturer standards.

I have read all instructions provided by the manufacturer

Anchor Install Address: \_\_\_\_\_

Inspector Name: \_\_\_\_\_

Name of Business: \_\_\_\_\_

Company Address: \_\_\_\_\_

Company Phone Number: \_\_\_\_\_

Company Email: \_\_\_\_\_

Homeowner Name: \_\_\_\_\_

Home Owner Phone Number: \_\_\_\_\_

Homeowner Email: \_\_\_\_\_

Product verification: Are all Rooftop Anchor components accounted for?  
Please check all that apply.

Lid

Base

D-Ring

2 - 5/16" - 3.5" Stainless Steel Lag Bolts

6 - 1/4" - 20 Stainless Steel Cap Head Screws

Butyl adhesive is attached to the bottom of the roof anchor

Disclaimer: If this device is used without proper inspections, the manufacturer is not liable and all warranties are void.