



PALMER™
SAFETY

METAL ROOF D-RING SWIVEL ANCHOR
INSTRUCTION MANUAL

•Fall Protection •Training •Netting •PPE



These Instructions Apply to the Following Model(s):
ANCHORDRINGSW

IMPORTANT:

Do not skip this instruction manual. Read the instruction manual carefully before using the equipment. Failure to do so may cause serious injury or death. These instructions serve as the Manufacturer’s Instructions and are to be used as part of an employee training program for the system, as required by OSHA.

Table of Contents

Overview 2

Safety Standards 2

Worker Definitions 3

Applications 3

Limits 4

Product Specifications and Labels 6

Installation and Use 7

Maintenance, Cleaning, and Storage 7

Inspection 8

Inspection Log 8

Safety Information 9

Notes 10-12

Overview

You have just purchased your very own Palmer Safety Fall Protection Metal Roof D-Ring Swivel Anchor. This manual must be read and understood in its entirety, whereas any specified training course on fall protection can be utilized to provide the necessary knowledge.

All of these instructions need to be made available to the user of the equipment. The user needs to understand how the Metal Roof D-Ring Swivel Anchor works and how to use it safely. They also need a basic understanding of fall safety equipment used in combination with the Metal Roof D-Ring Swivel Anchor, such as harnesses and lanyards.

Safety Standards

All applicable OSHA 1926 Subpart M, ANSI Z359.18-2017, and ANSI A10.32-2012 standards for fall protection are followed when this product is used as instructed. Standards are regulated depending on the type of work being done. You can review all regulations at regulatory agencies for more information on fall protection systems, including any of the state-specific regulations.

Worker Definitions

NOTE: It is important to know the definition of those who work near or who may be exposed to fall hazards.

Qualified Person: A person with accreditation for this position who has sufficient experience or standing in their industry. They are responsible for reviewing the effectiveness of fall prevention and rescue procedures.

Competent Person: A fall safety coordinator is a person who has been trained to manage all aspects of a company's fall safety program. This includes the actual regulation, the management thereof and its application. A person tasked with identifying existing or foreseeable hazards. They have the power to temporarily stop work to address any concerns they might have.

Authorized Person: An employee who's area of responsibility includes areas where potential or existing fall hazards exist. These employees need to be trained to understand what it takes to work safely around these hazards.

Qualified or Competent person on jobsite is responsible for training and inspection of Metal Roof D-Ring Swivel Anchor. Please contact your local Palmer Safety Specialist if you have questions or need training. We can provide training on the jobsite.

Applications

WARNING: Using the equipment in ways other than its intended purpose may result in severe injury or death. Maximum 1 attachment per connection point. This anchor is not to be used as part of an HLL system unless designed by a Qualified Person and meeting all OSHA and other state and local requirements.

Fall Arrest: The Metal Roof D-Ring Swivel Anchor, which can be used in Personal Fall Arrest (PFAS) applications, is for use by only 1 person and must be used with the appropriate supporting structure. The supporting structure must also withstand loads applied in the advised directions of at least 5000 lbs. Maximum freefall height is 6 feet, or up to 12 feet when in combination with a harness that has been tested for such use. The D-ring needs to be in the dorsal position.

Restraint: The Metal Roof D-Ring Swivel Anchor can be utilized in Restraint systems. Restraints are used to ensure workers do not get too close to the edge of any fall hazards. Only 1 person can use the Metal Roof D-Ring Swivel anchor at a time when working in restraint. Make sure to account for the full length of the lanyard or SRL that you plan on using. The structure must be guaranteed to withstand loads that are at least 1,000 lbs. in every direction. No item shall be allowed to fall without restraint. Restraint systems can only be used on surfaces where slopes are up 4/12.

D-rings that can used: Dorsal, Chest, Side, Shoulder.

TOTAL user weight capacity range (including person, clothing, tools, and equipment) is 130-310 lbs.

Limits

Fall Clearance: There should be enough clearance below the anchorage connector to arrest a fall before the person strikes the ground or an obstacle. When figuring out how far a person might fall, there needs to be a safety buffer of 2 feet. People also need to consider the distance they are slowing down at, how tall they are, the length of their lanyard or SRL. They should also think about harness stretch and any other factors that may apply such as Swing Fall.

Diagram shown to the right is a fall clearance calculation **EXAMPLE ONLY**.

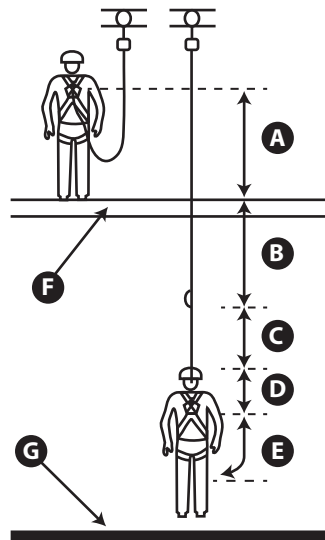


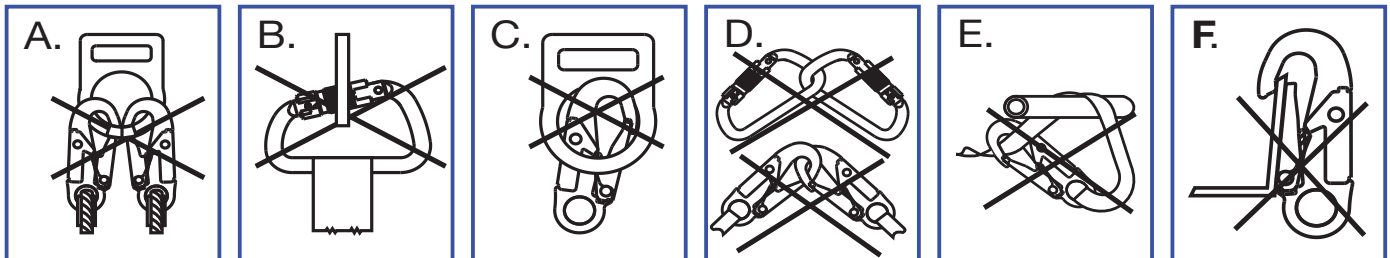
Diagram Point	Distance	Factors
A	*	Free Fall
B	**	Deceleration Distance
C	2 ft.	Safety Factor
D	1.5 ft.	D-ring Shift and Harness Stretch
E	***	Swing Fall
A + B + C + D + E = Required Fall Distance		
F		Working Level
G		Lower Level or Obstruction

* Free Fall Distance will depend upon multiple factors such as anchorage location and type of connecting subsystem used (energy absorbing lanyard, SRD, etc.)

** Deceleration Distance will depend upon type of connecting subsystem used (energy absorbing lanyard, SRD, etc.)

*** Swing falls occur when the anchorage point is not directly above the point where a fall occurs. The force of striking an object in a swing fall may cause serious injury or death. Minimize swing falls by working as close to the anchorage point as possible. Do not permit a swing fall if injury could occur. Swing falls will significantly increase the clearance required when a self-retracting lifeline or other variable length connecting subsystem is used.

Compatibility: To avoid interference when connecting to the Metal Roof D-Ring Swivel Anchor, there must be enough space between the hook and its attachment point. This is known as “rolling out” and can cause the gate on the hook to inadvertently open and release. All components must be compatible with the Metal Roof Swivel D-Ring Anchor and must be approved by a Competent Person. All connectors should be self-closing and self-locking, and should withstand a minimum load of 3,600 lbs.



A. Two or more connectors should never be attached to a single D-ring.

B. Never attach a connector that could result in a load on its gate.

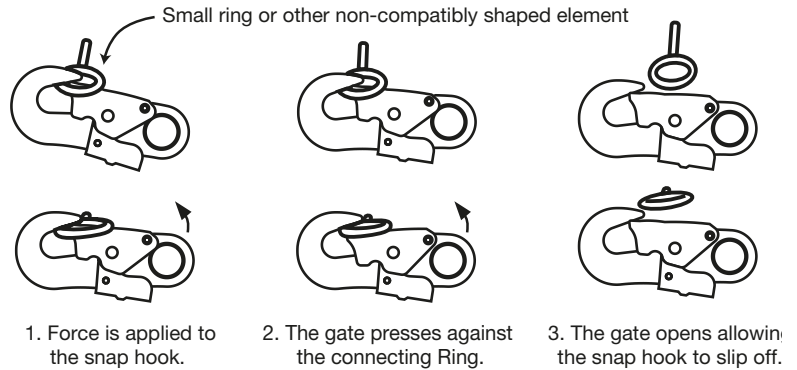
C. Connectors should not be connected in a false engagement. It should be visually confirmed that the connector is fully engaged to the anchor point. Avoid conditions that allow for features that protrude from the connectors to catch on the anchor, giving a false sense of being connected.

D. Connectors should not be connected to each other.

E. Connectors should not be connected directly to the webbing or to the rope lanyard or tie back, unless specifically allowed by the manufacturer.

F. Connectors should not be connected to any object which does not allow the connector gate to close or lock. Anchor shapes that allow roll out to occur should never be used for connection. If the anchor, to which the snap hook or carabiner is attached, is under sized or irregular in shape, then this may allow for the gate of the connector to come in contact with the anchor, thereby causing the connector to open up and possibly disengage from the anchor. This is known as roll out of the connector. See Diagram 2.

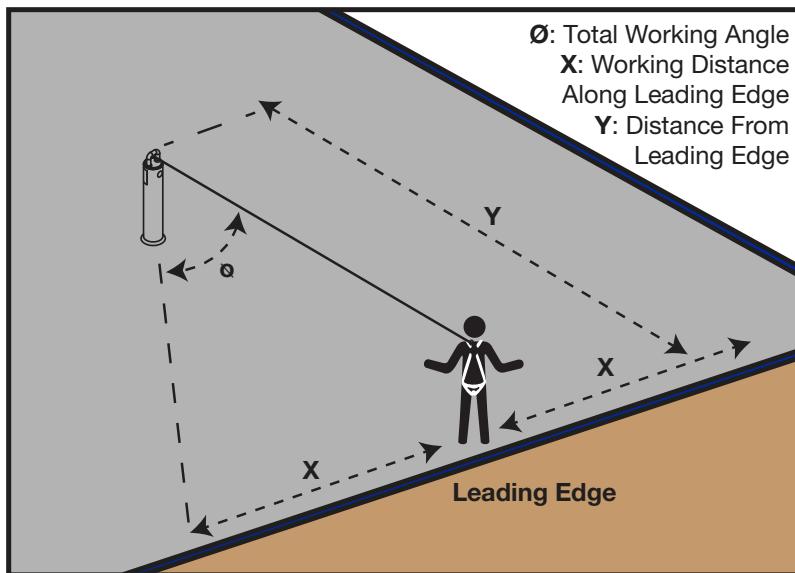
Diagram 2 - Unintentional Disengagement (roll-put)



G. Do not use connectors on an anchorage object as shown in figures A to F.

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.

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

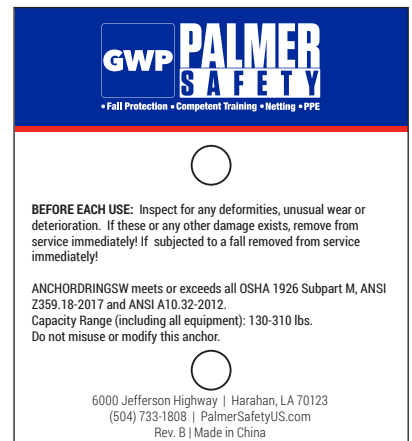


Anchor Distance From Leading Edge (Y)	Working Distance Along Roof Edge (Either Direction) (X)	Working Angle From Perpendicular (\emptyset)
6'	8'	53°
10'	9' - 9"	45°
15'	11' - 7"	38°
20'	13' - 3"	33°
25'	14' - 6"	30°
30'	16'	28°
35'	17' - 2"	26°
40'	18' - 3"	24°
45'	19' - 4"	23°
50'	19' - 10"	21°
55'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

Swing Falls: When using or installing any anchors, think about eliminating swing fall hazards. Swing falls happen when the anchor point is not directly over the object being secured. Always make your anchors as close to perpendicular to where you are securing something as possible. Swing falls can increase the chances of serious injury or death if there is a fall.

Product Specifications and Labels



Maximum 1 connection per anchor.

Maximum Worker Weight: 310 lbs. including all tools and equipment

Minimum Breaking Strength: 5,000 lbs.

Materials: Steel

Weight: 2 lbs.

Notes:

- 1.) CAN BE USED IN ANY DIRECTION, 360° PROTECTION, AND ANY D-RING ANGLE, 180° MOVEMENT
- 2.) Make sure all workers have read and understand the warnings associated with this equipment.
- 3.) Make sure all workers are using other fall protection methods while installing this roof anchor.
- 4.) For use on steel roof and decks of 22 Gauge or Thicker
- 5.) Not for worker positioning or equipment handling or suspension
- 6.) This anchor is not for use as part of a HLL system unless designed by a qualified person and meeting all OSHA and other state and local requirements.

Installation and Use

1. Find joists or purlins below the roof deck material. Fasteners must be installed into a joist or purlin.
2. Make sure the area identified by the competent person for installation is clear of all debris and obstructions.
3. Ensure that the roof and supporting structure is in solid condition, not rusted, rotted or loose. Make sure the roof decking is completely and permanently attached as per the building design specifications. If there is any doubt as to the structure's integrity do not install this anchor in this location.
4. Make sure the structural member is directly underneath the installation point. All 8 screws must be installed into the structural support. Do not use the Metal Roof D-Ring Swivel Anchor in this location if the structural members cannot be located.
5. Place the Metal Roof D-ring Swivel Anchor on the roof a minimum of 6 feet from any edge and align the plate over the joist or purlin.
6. Start in one corner, install the self-tapping 1/4" #14x1-1/2" Tek™ (or equivalent) screws with the correct size screwdriver or nut driver. Do not overtighten and strip the screws if using mechanical driver.
7. Continue installing the other 8 screws so that all the holes are used. All 8 fasteners must go into and through the joist or purlin.
8. If you cannot install all 8 screws into the deck and through a joist or purlin, remove the screws and reposition the anchor to a suitable location.
9. If a screw is stripped, damaged or will not seat tightly, replace with a different screw. If the decking material, joist or purlin is stripped, reposition the anchor to an area that is solid and continue the installation. If a solid installation of all 8 fasteners is not possible, do not use the Metal Roof D-Ring Swivel Anchor in this location.
10. When all 8 fasteners are securely installed, the anchor may be used by 1 person at a time. Maximum weight is 310 lbs. including tools and equipment.
11. Install additional anchors for additional workers.
12. Do not use this anchor as part of a horizontal lifeline system unless designed by a qualified person. This anchor is designed for use as a single anchor point only, with a lanyard with shock pack a retractable lanyard or rope/cable grab typically going directly between the anchor and the users back d-ring on a suitable harness. Horizontal lifelines require written design from the manufacturer or from another Qualified Person. Also, installation and use of a horizontal lifeline requires a Qualified and Competent Person on site.
13. This anchor is designed as part of a complete fall arret system meeting all OSHA and other state requirements. All systems must be complete fall protection systems that reduce forces on the body to less than 1800 lbs. and carry a safety factor of at least 2.

Maintenance, Cleaning, and Storage

If Metal Roof D-Ring Swivel Anchor fails inspection in any way, immediately remove it from service, and contact Palmer Safety to inquire about its return or repair.

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

- 1.) System should be inspected before each use.
If any damage is found or system is involved in a fall remove from jobsite immediately.
- 2.) System should be inspected by a Competent Person at a minimum of every 6 months.
- 3.) All inspections should be documented.

Palmer Safety would be glad to help with any inspections.

Inspection Log

SERIAL NUMBER:													
MODEL NUMBER:													
DATE PURCHASED:							DATE OF FIRST USE:						

	J	F	M	A	M	J	J	A	S	O	N	D
YR												
YR												
YR												
YR												
YR												

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 6 months. Competent Person to inspect and initial.

This inspection log must be specific to one Metal Roof D-Ring Swivel Anchor. All inspection records must be made visible and available to all users at all times.

If equipment fails inspection or is involved in a fall REMOVE FROM SERVICE IMMEDIATELY.

INSPECTION DATE	INSPECTION ITEMS NOTED	CORRECTIVE ACTION	MAINTENANCE PERFORMED
Approved by:			
Approved by:			
Approved by:			
Approved by:			
Approved by:			
Approved by:			
Approved by:			

Safety Information

WARNING: 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.

Notes:

Notes:



General Work Products LLC
6000 Jefferson Hwy
Harahan, LA 70123
(504) 733-1808
www.PalmerSafetyUS.com