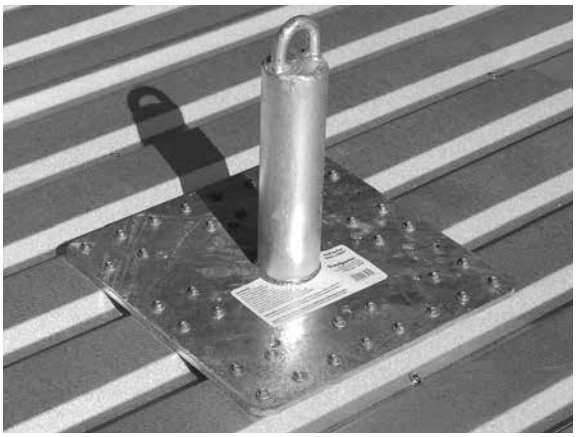
Commercial Roof Anchor Installation Instructions

Part# 48591 - Welded Steel Galvanized Anchorage Device
U-rod Cross Section: .625” Base: 16” x 16” Square
Base thickness: 3/8”
40 pcs #14 x 2.5” Type A Milled Point Deck Screws
Strength Rating: 5,000 lbs
Capacity: 310 lbs (Worker with Tools)

Optional Accessories:
48592 Commercial Anchor Flashing
48593 Commercial Riser Cap



WARNING: This product is part of a personal fall arrest system. The users must read and abide by the manufacturer’s instructions for each element of the system. ***Installation of this roof anchor must be certified by a qualified person or engineering service.*** These directions must be given 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

SPECIFICATIONS:
This fall arrest anchor is for single and multiple users on a low slope roof application (4/12 pitch or less). A Horizontal line fall restraint system of up to four workers may be used if designed and inspected by a qualified person.

RECOMMENDED INSTALLATION:
Roof Anchors must be installed and spaced a maximum of 20ft. apart. Installation around the perimeter of the leading edge areas is recommended to ensure compliance and allow the user to easily switch from anchor to anchor. Recommended spacing is between 6 and 10ft. from edge of roof. Do not install the roof anchor on unsupported roof structures such as overhangs or inadequately secured decking.

1. **ANCHORAGE:** Select an anchorage point that is structurally secure and capable of supporting the required loads, see below installation suggestions.

2.CONSIDERATIONS: Personal fall arrest systems must be rigged to limit any free fall to a maximum of 6 ft. 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 another worker or another object. Do not allow the lifeline to pass under arms or between legs. Never clamp, knot or otherwise prevent the lifeline from retracting or being taut, avoid slack line.

3. FALL DISTANCE: 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 the total fall distance including; user’s weight, anchorage location relative to the fall (swing fall), body support with sliding D-ring, and the type of fall arrest equipment you attach to the roof anchor. For specific clearance requirements read and follow the manufacturers’s instructions for your fall arrest equipment.

4. 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. 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. A commonly followed guideline is not to extend your work zone over 30° from the anchorage point.

5. SHARP EDGES: Avoid working where the connecting subsystem 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. Compatibility and total fall distance issues must be considered if this is done.

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6. RESCUE: The user (employer) must have a rescue plan, rehearse that rescue plan with employees, and continually have the means at hand to implement it. All personnel must be prepared should a fall occur.

7. AFTER A FALL: Any equipment which has been subjected to impact loading must be removed immediately from service and shall not be used again for employee protection until inspected and determined by a qualified person to be undamaged and suitable for reuse.

PRIOR TO EACH USE:
Personal fall arrest systems and components shall be inspected prior to each use for wear, damage, and other deterioration. Defective components must be removed from service. Personal fall arrest systems shall not be attached to guardrail systems or hoists.

HORIZONTAL LIFELINES:
Horizontal lifelines shall be designed, installed, and used under the supervision of a qualified person as part of a complete personal fall restraint system.

INSTALLATION OF THE ROOF ANCHOR
The roof structure coupled with the fastening of the roof anchor to the roof structure must meet the minimum strength of 5,000 lbs. A professional engineer or other such qualified person must certify that the anchorage meets this requirement.

A. WOOD DECKING
The anchor must be installed in the center of a plywood sheet that is 48"x 48" and is secured to at least 3 top trusses see fig. 1. Minimum thickness of plywood decking is 1/2" with 3/4"" backer, see fig. 2. The deck sheathing must be secured at all perimeter edges, 8" on center using deck screws. Secure a sheet of 3/4" x 48" plywood reinforcement board as shown in fig. 1 & 2, cut to fit between the inside width of the truss spacing. Attach the reinforcement board to the deck sheathing using the same 8" on center and screws. Anchor Fastening Specification: Attach the anchor using at least 40 -2.5"x #14 hex head screws. The fasteners must penetrate through the reinforcement board. A visual inspection should be taken to verify that the fasteners are installed through the board. For trusses with 24" spacing, center the anchor as shown in fig. 2. For trusses less than 24", two reinforcement boards must be used and the anchor centered over the truss as shown in fig. 3. Additional screws for reinforcing decking not supplied by Tie Down Engineering. All anchorage methods must be inspected and certified by a professional engineer or qualified person.

B. CORRUGATED STEEL ROOF DECKING
The roof structure with steel decking that the roof anchor is to be installed onto must meet the minimum strength of 5,000 lbs. A professional engineer or qualified person must certify that the anchorage meets this requirement. The steel decking material must be a minimum of 20 gauge. Additional structural members may be needed to allow the anchor to be securely attached to the primary roof structure. Align the anchor base plate fastener holes over the raised channel of the steel decking as shown in fig. 4. Attach the anchor to the metal deck using 40 #14 x 2.5" self tapping hex head screws. Do not over tighten fasteners. Steel Decking less than 20 gauge: Attach a second layer of metal decking 36" x 36" (915 x 915mm) as shown in fig. 5, over the primary metal decking. Attach the second layer to the primary using #14 deck screws, 8" (204mm) on center through all raised channels of the metal decking.

C. Concrete
The concrete that the roof anchor is to be installed onto must have a minimum thickness of 4" and be rated at 2,000 psi. min. Use 8 - 1/2" wedge anchors (not supplied) rated at 6,000 lbs, to attach and align as shown in fig. 6. The concrete must be fully cured to withstand the required 5,000 lb. load before using.

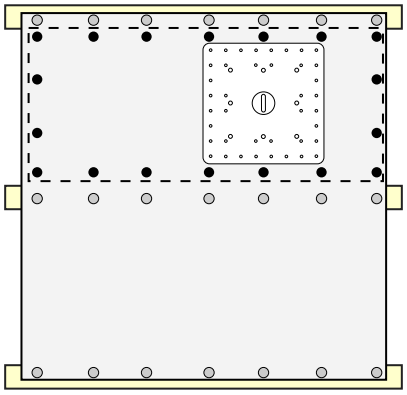


Fig. 1

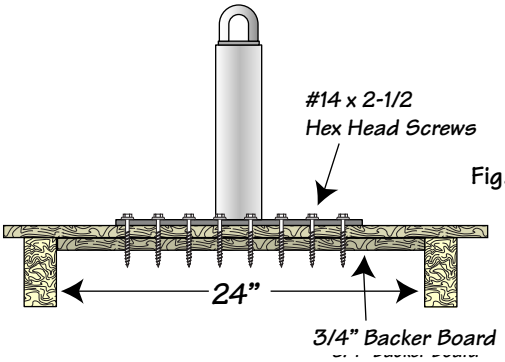


Fig. 2

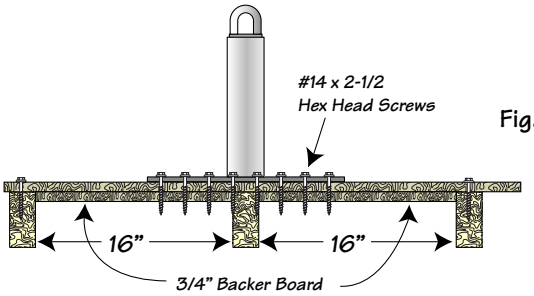


Fig. 3

Fig. 4

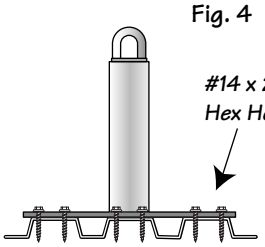
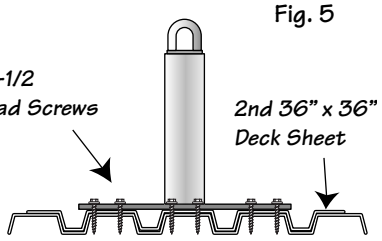


Fig. 5



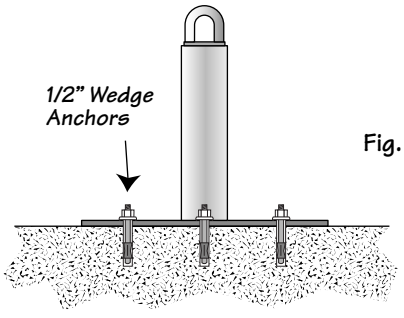


Fig. 6

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