



# RZ Guardrail System Installation Manual

RZ Guardrail System Compliance is based on OSHA standards:  
(Standards - 29 CFR) 1910.23 (e) and (Standards - 29 CFR) 1926.502 (b)

***Failure to read, understand and follow these instructions may cause bodily injury or death.***



Contractors installing and using the RZ Guardrail System must read and follow all directions and safety precautions. This guardrail system meets all applicable OSHA standards for guardrail systems.

The RZ Guardrail System protects workers and limits the danger of falls by creating a barrier. Fall protection is required to protect workers from leading edge work, exposed side hazards, openings, and other fall hazards.

***WARNING: SERIOUS INJURY AND BODILY HARM OR DEATH MAY RESULT IF THIS PRODUCT IS MISUSED OR NOT INSTALLED PROPERLY. ROOF ZONE INSTRUCTIONS ARE INTENDED TO BE USED BY THE OWNER AND THE END USER TO INSTRUCT ALL WORKERS, AND TO CONFIRM THAT THEY FULLY COMPREHEND THE SERIOUSNESS OF OBEYING THIS MANUAL AND ITS INSTRUCTIONS. ROOF ZONE IS NOT RESPONSIBLE AND HELD FREE OF ALL LIABILITY FROM INJURY, DAMAGE, OR OTHER LOSS RESULTING FROM THE IMPROPER OR UNAUTHORIZED INSTALLATION OR USE OF THIS PRODUCT.***

Talk to your doctor if there is reason to doubt your ability to safely install and dismantle this guardrail system. Age and health circumstances can seriously affect a worker's ability to withstand injury. Pregnant women or minors must not use the RZ Guardrail System.

Instruction Sheet #08224

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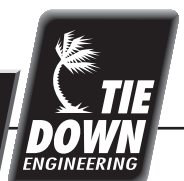


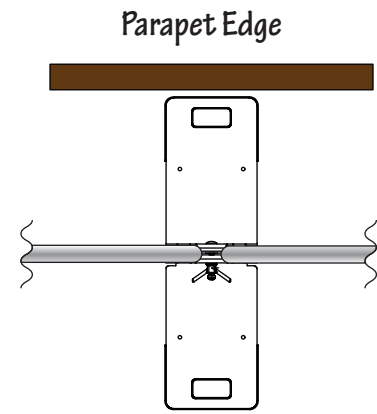
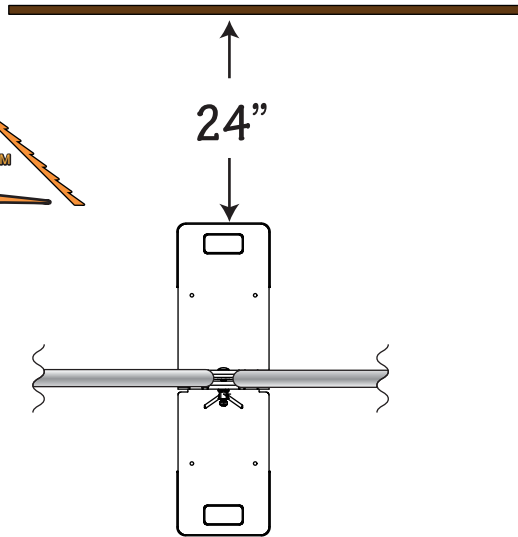
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# Safety First!



- ★ **IMPORTANT:**  
*Failure to read, understand and follow these instructions may cause bodily injury or death.*
- ★ *A competent person must instruct all workers using or exposed to falls on how to correctly use, inspect and install properly as well as review the nature of fall hazards in the work area. Relevant Federal, State, and Local regulatory requirements, procedures, and standards shall also be a part of employee training.*
- ★ *The user of this guardrail is required to have a rescue plan and the means at hand to implement it. The rescue plan shall be specific to each project. Employees shall be trained for prompt rescue in the event of a fall.*
- ★ *Verify that the roof and or floor that the guardrail will be installed upon can accept the weight of both employees and guardrail system.*
- ★ *The RZ Guardrail System must be used only on flat surfaces that are clear of rubbish and objects that would prevent the base from completely resting on the deck or surface.*
- ★ *Do not use RZ Guardrail System on surfaces that are slick or oily or where loose gravel may be located.*
- ★ **IMPORTANT: ELECTRIC SHOCK MAY RESULT IN DEATH:** *Do not use RZ Guardrail System near power lines or electrical wires. Maintain at least 12 feet from electrical lines.*
- ★ *Do not use RZ Guardrail or bases if they are damaged or subjected to the forces of a fall.*
- ★ *An outrigger or 90 degree rail with base must be used at the beginning, end or breaks in guardrail runs. Reference manual for further details.*
- ★ *Guardrails are not to be used for any other purposes; no hoisting or tie offs allowed. The RZ Guardrail System is not to be used as a fall arrest or fall restraint attachment for personal fall protection.*
- ★ *Inspect all parts prior to use, if there is any damage do not use. Replace with new product.*
- ★ *Placement of base plate must be at least 24 inches from unprotected edge if there is no parapet. The long side of the base plate should be perpendicular (90 degrees) to the guardrails. If the roof has a parapet, the base plate may rest next to the vertical structure.*



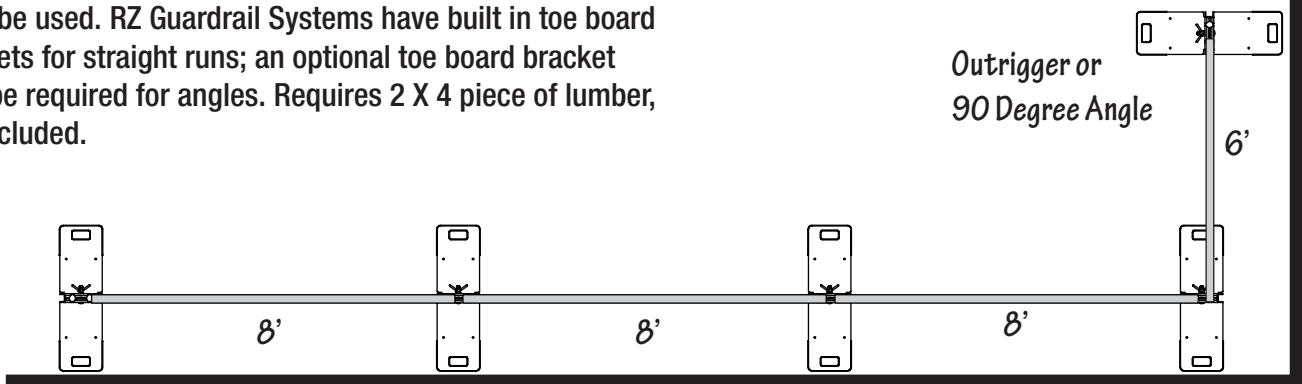


### Guardrail Installation Instructions

1. Position Bases to the appropriate width. Base plate position should be with the long side perpendicular (90 degrees) to the guardrail. Base plates should be positioned 24 inches from the unprotected edge. If there is a parapet, the base plate can rest next to the vertical wall.
2. Attach railings into the clamp plate on the Base. Make sure that the rail tube is flush to the Base. Tighten the forged wing nut on base plate with hand and then use foot to tighten until rail is firmly secure to base.
3. Each continuous and interrupted rail section must have an "Outrigger" or 90 degree angle with rail and base plate on both ends.



When working on elevated work surface, as defined by OSHA (Standard - 29 CFR 1926.501-503 and 1910.23), a toe board must be used. RZ Guardrail Systems have built in toe board brackets for straight runs; an optional toe board bracket may be required for angles. Requires 2 X 4 piece of lumber, not included.





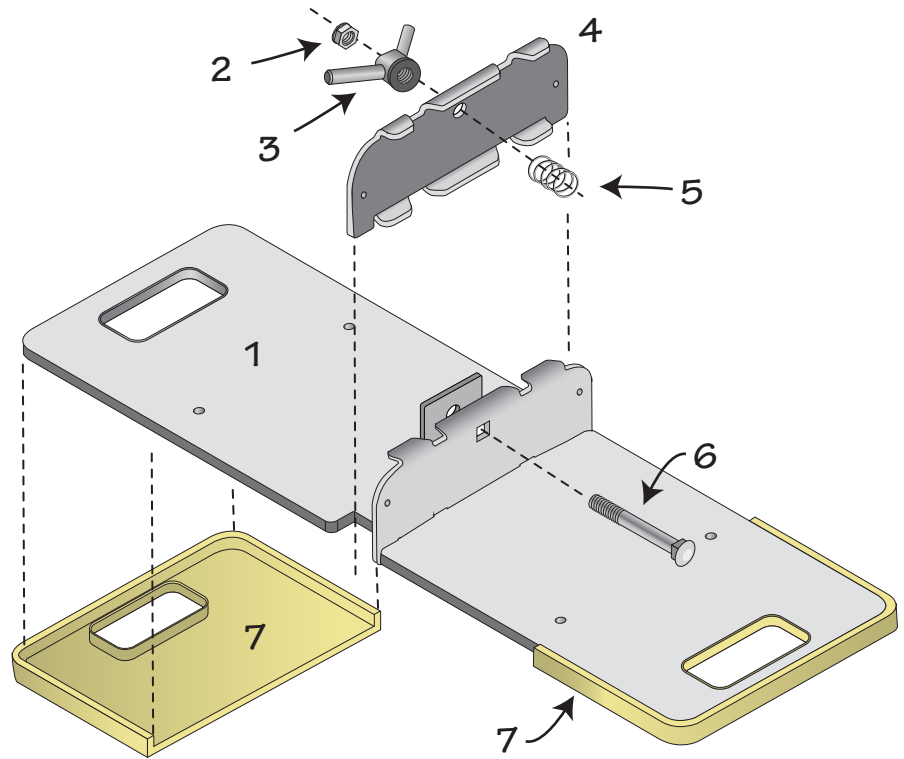
**Guardrail Base #48680**

- 1 Guardrail Base
- 2 Jam Nut
- 3 Forged Wing Nut
- 4 Brace Clamp Bracket
- 5 Spring
- 6 Bolt
- 7 Vinyl Base Pad

**Replacement Kit #48683**

Includes:

Jam Nut (2), Forged Wind Nut (3), Spring(5) & Bolt (6)



**TOE BOARD REQUIREMENTS:**

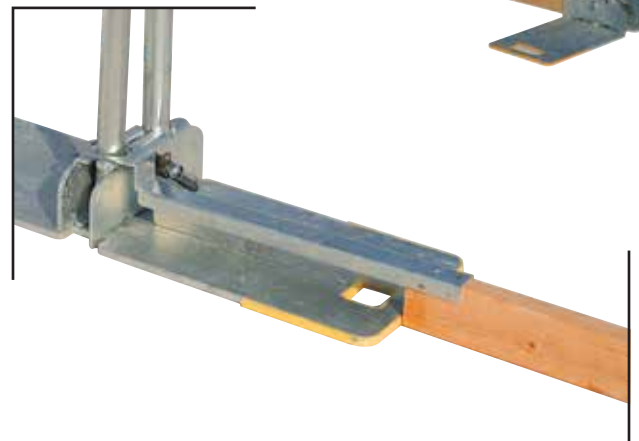
Use Toe Board when there are unprotected edges that do not have a barrier such as a parapet wall. In addition, toe boards are required whenever open sides are exposed above where people may pass, there is moving machinery, or there is equipment with which falling materials could create a hazard. (OSHA 1910.23 (c)(1))

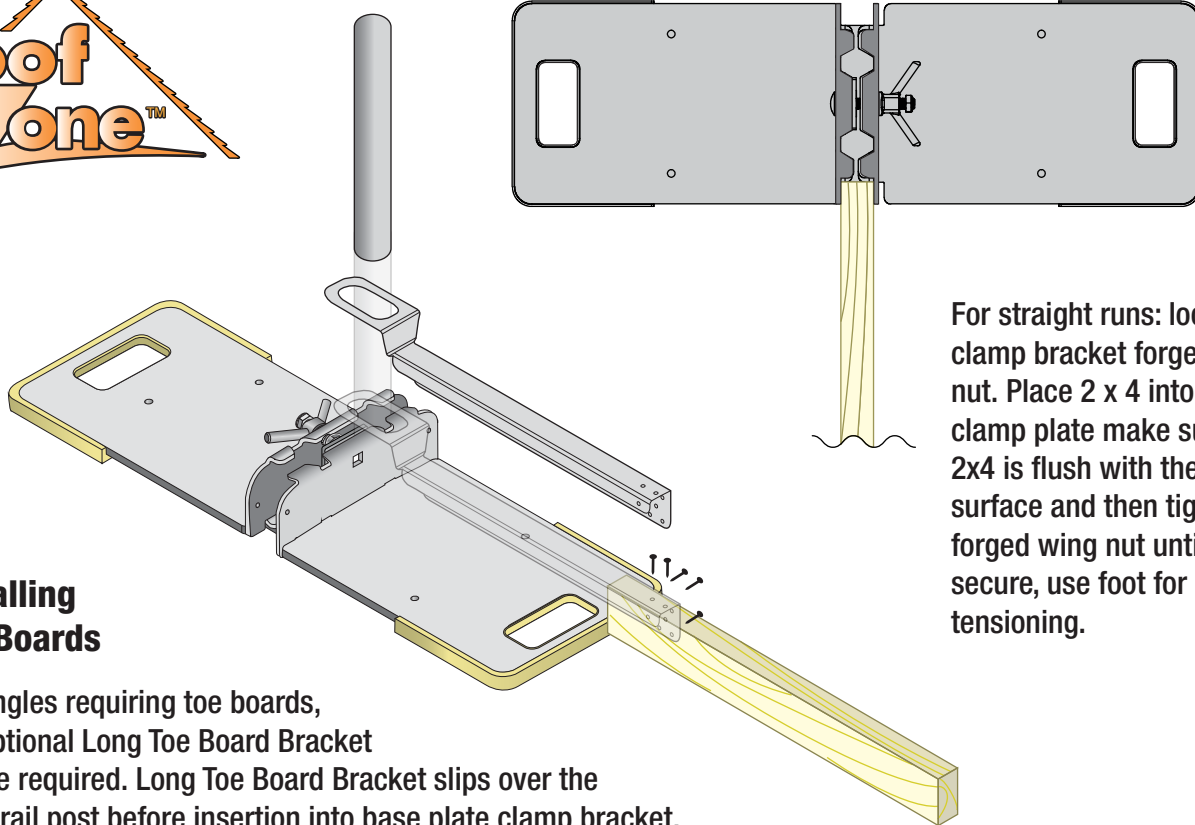
Every ladder way floor opening or platform shall be guarded by a standard railing with standard toe board on all exposed sides (except at entrance to opening), with the passage through the railing either provided with a swinging gate or so offset that a person cannot walk directly into the opening. (OSHA 1910.23(a)(2). The toe board shall extend one guardrail unit on either side of a work area on a continuous run.

Toe boards shall be a minimum of 3 1/2 inches (9 cm) in vertical height from their top edge to the level of the walking/working surface. They shall have not more than 1/4 inch (0.6 cm) clearance above the walking/working surface. They shall be solid or have openings not over 1 inch (2.5 cm) in greatest dimension. (OSHA 1926.502(j)(3)).



Toe Board Bracket #48684





For straight runs: loosen base clamp bracket forged wing nut. Place 2 x 4 into the base clamp plate make sure the 2x4 is flush with the roof surface and then tighten the forged wing nut until firmly secure, use foot for easy tensioning.

### Installing Toe Boards

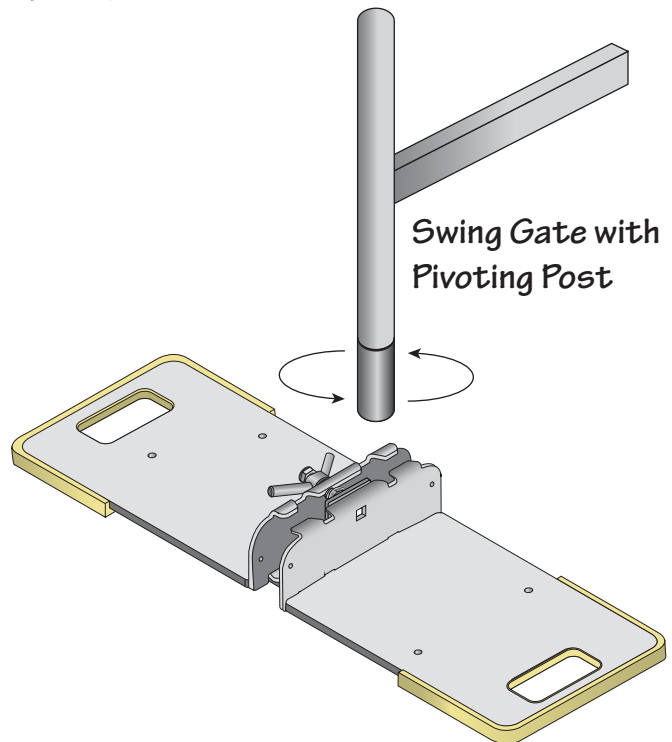
For angles requiring toe boards, the optional Long Toe Board Bracket will be required. Long Toe Board Bracket slips over the guardrail post before insertion into base plate clamp bracket. Slide 2x4 into bracket and nail or attach with wood screws. Make sure to tighten the forged wing nut until firmly secure when post is placed back into base

### Guardrail Swing Gate Installation Instructions

Each RZ Rail Swing Gate comes with a gate latch assembly, wheel/ bracket, and latch catch bracket in a box.

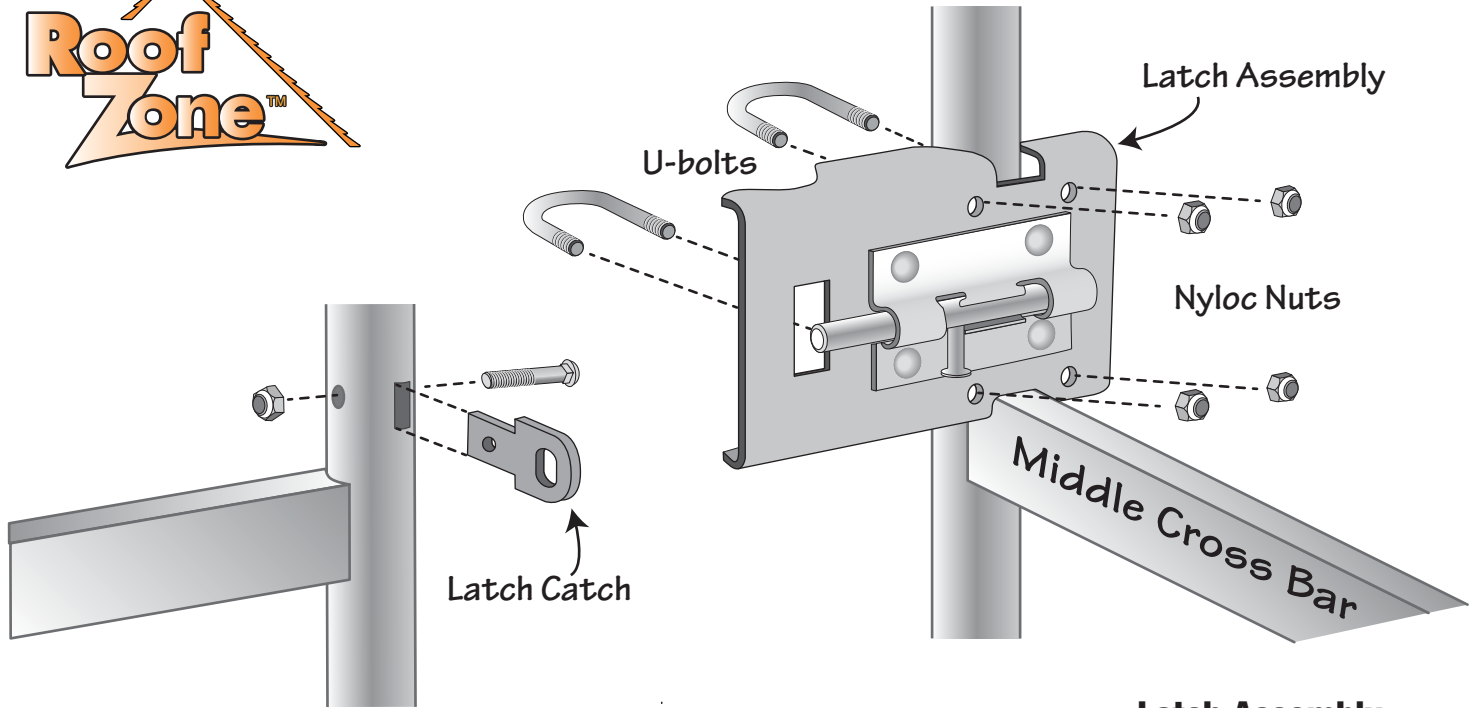
Installing gate to guardrail bases: with spacing predetermined, attach the pivoting post of the swing gate into the proper base; make sure that it's flush with the bottom before tightening. Firmly secure the forged wing nut. Gate should swing into the other base and latch as pictured.

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Swing Gate with Pivoting Post





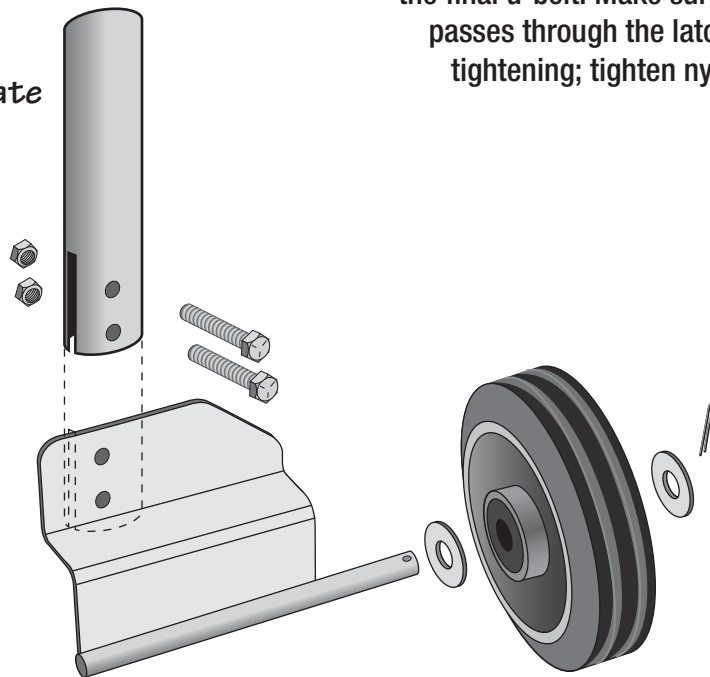
**Latch Catch**

Place latch catch bracket into swing gate tube. Align the bracket and place bolt through guardrail tube; tighten nut firmly.

**Latch Assembly**

Position latch assembly on the inside gate 90 degrees perpendicular to post. The latch assembly should rest on the middle cross bar as shown. Slide the provided u-bolts around the post and through the latch assembly, loosely tighten nyloc nuts, repeat for the final u-bolt. Make sure that the latch passes through the latch catch before tightening; tighten nyloc nuts firmly.

*Pivot Swing Gate*



**Wheel/bracket**

Slide wheel bracket into the tube. Align holes (tube and bracket), insert bolt and tighten with nuts firmly.

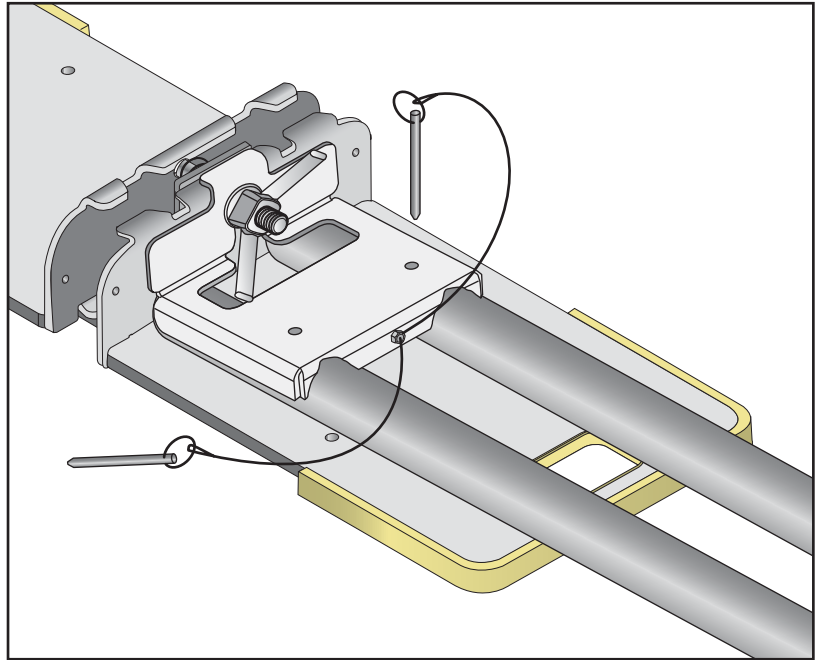
Assemble wheel using washers and cotter pin as pictured.



## Collapsing Bracket #48694

When RZ Guardrails are no longer required but need to stay on the roof, the RZ Guardrail Collapsing Bracket may be used to secure rails in a downward position.

To install, loosen the forged wing nut and place the bracket over as pictured. The collapsing bracket will slide over and onto the clamp bracket; with the rails laying against the bracket and RZ Guardrail Base, tension the forged wing nuts. Take the lanyard with pin and insert through the collapsing bracket into the rail.



## RZ Guardrail System Warranty

Roof Zone by Tie Down Engineering warrants the original purchaser and not any other purchaser, or subsequent owner, that its Galvanized RZ Guardrail System is free from defects in materials or workmanship and from the development of red rust over five percent (5%) of the surface for a period of ten (10) years from date of purchase.

Tie Down Engineering will not cover under warranty any damage from improper use, accident, alteration, neglect, abuse, abrasion, air pollutants, improper service or installation, damage caused by flood, fire or act of God is not covered by this limited warranty. Use in harsh industrial, coastal or marine environment is not warranted against corrosion.

Should any RZ Guardrail System component manufactured by Tie Down Engineering fail in accordance with any of the above conditions, Tie Down Engineering warrants to the original purchaser their restitution through replacement, renewal or issuance of a pro-rated credit. The decision as to which method of restitution is allowed is solely at the discretion of Tie Down Engineering. If pro-rated allowance is chosen, the amount will be based on the total number of years under warranty from date of purchase to date of claim, based on the original cost of materials found to be defective. Notice of failure under the conditions of this warranty shall be sent to Tie Down Engineering or its authorized representative, in writing, together with proof of purchase and shall specify the nature of the defect and when it was first observed.

***THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES. TIE DOWN ENGINEERING MAKES NO OTHER EXPRESS WARRANTIES, AND DOES NOT AUTHORIZE ANY OTHER PERSON OR AGENT TO MAKE ANY OTHER EXPRESS WARRANTIES. TIE DOWN ENGINEERING NEITHER ASSUMES NOR AUTHORIZES ANY OTHER LIABILITY OR OBLIGATION IN CONNECTION WITH THIS PRODUCT. EXCEPT TO LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THIS PRODUCT, IS LIMITED IN DURATION TO THE TEN (10) YEAR TERM OF THIS LIMITED WARRANTY. IN NO EVENT SHALL TIE DOWN ENGINEERING BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL, OR INCIDENTAL DAMAGES ARISING OUT OF OR CONNECTED WITH THE PURCHASE OR USE OF THIS PRODUCT OR FOR ANY BREACH OF WARRANTY. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE. THIS WARRANTY IS ONLY APPLICABLE TO SYSTEMS INSTALLED IN THE UNITED STATES AND CANADA.***