



---

User Installation Guide  
*Topless Glass*

---

Prepared by Neil Thorslund



## **Preface**

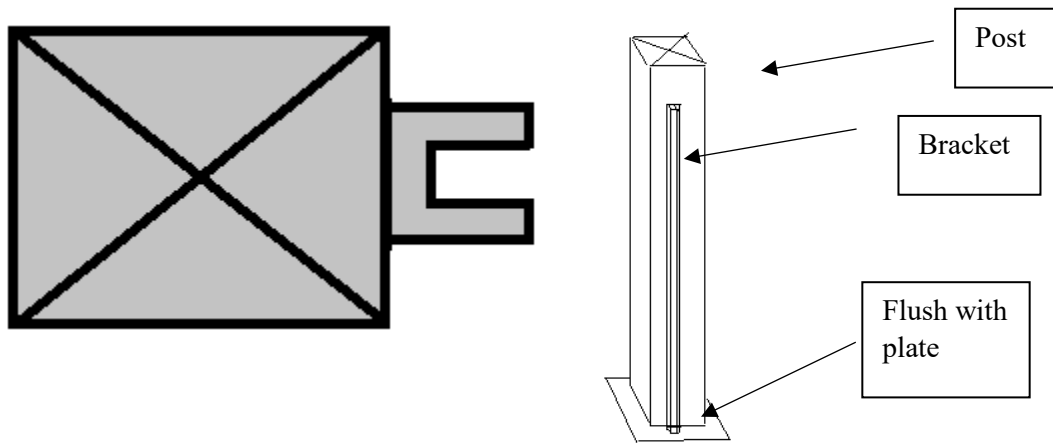
The objective of this report is to simplify the installation process for new and inexperienced aluminum railing installers. The step wise procedure can be applied to all sorts of home installation projects which include stair rail and top handrail. Please refer to the Appendix section to learn about materials and equipment used throughout the installation process.

The step wise procedure may vary depending on each project and may sometimes be modified based on the needs of the customer. These instructions are meant to be guidelines, as proper judgement should always be used. Safety gloves and earmuffs should be worn when using the mitre saw.

It is important to note that the posts should be first installed before taking the glass measurements. This ensures that the glass will perfectly fit in the brackets.



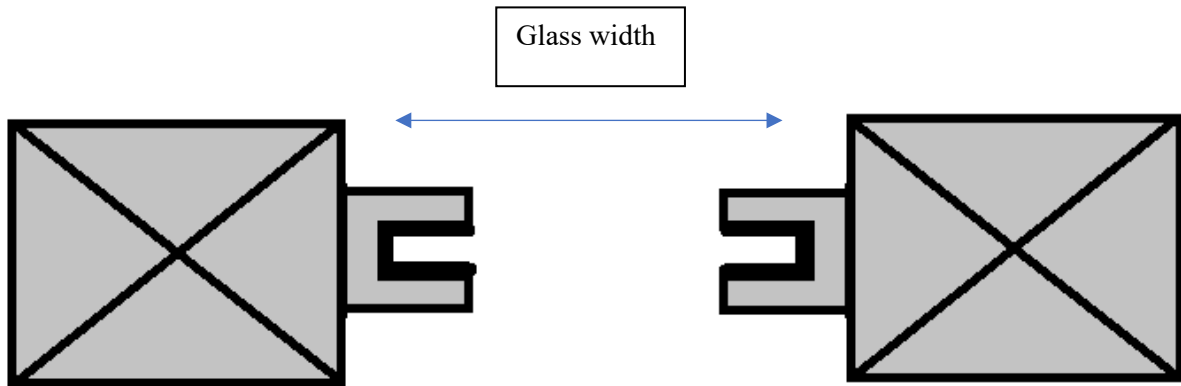
1. Use the following materials to construct a 4-foot section of topless glass rail.
  - a. 2 topless post packs
  - b. Rubber gaskets
  - c. 10 mm glass panel
  
2. Install the mounting bracket on the side of post using 3, 12x1 ½ fasteners, such that the bracket is directly up against the base plate A top view of the post with the bracket attached is shown in Figure 1.



**Figure 1** Top view and front view of topless glass post

3. Cut 2 metal glass blocks to 3 inches using the mitre saw and insert them in the glass bracket at the bottom
4. Cut 2 gaskets to 31 inches long using the mitre saw and insert them inside the brackets.
5. Place the post on the edge of the deck or patio, a safe distance such that there is enough support underneath for a lag bolt to go through. Use the square to ensure that the post is at a 90-degree angle with the edge of the deck. Mark the holes using a pencil.
6. Place the level on the edge of the end post to see if the post is perfectly vertical. If not, insert composite shims underneath the post to make it level.
7. Once the shims are in place, remove the post from its location.
8. Use the impact driver with a 3/16 drill bit or the power drill to drill the holes if it is a wood deck. If it is concrete patio, use the concrete drill with a 5/16 drill bit and insert concrete plugs after the hole is drilled
9. Return the post to its location and use the 3x14 lags screws to fasten the post into place. (Use 14x2 for concrete). Screw slowly and under control, to avoid scratching the bolts or the post.
10. Measure the glass width as shown in Figure 2. The glass should fit snugly inside the brackets. The glass height will be 39 inches for topless glass rails. (and since the glass is suspended 3 inches off the ground, this meets the 42-inch total height requirement).





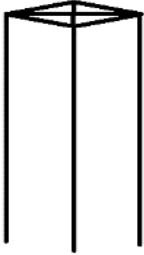
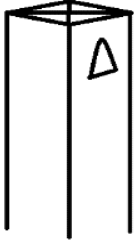
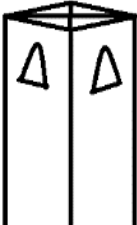
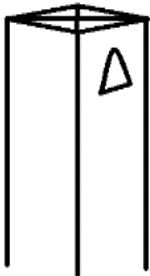


**Figure 2** Glass measurement between posts









11. There are 2 ways to install the glass
  - a. If you have 1 person, lubricate the edges of the glass, lift the section of glass and slide it in from the top. Gently push down on the glass until it slides nicely into the gaskets.
  - b. If you have 2 people, then uninstall one post, push the glass in to one post, push the other post back in and re-fasten (this way is easier)
12. If the rubber gasket edge becomes folded outward on the glass, use a composite shim to gently push the rubber back so that it sits on the inside.
13. The final product should look like Figure 3.



**Figure 3** Topless Glass Rail

## Appendix A Building Materials





Material	Photo	Description
Stair post		Used for stairs, has no holes.
End Post		Used to end a section of railing, has one hole
Corner post		Used to continue railing around a corner, 2 holes on perpendicular edges
Line post		Used to continue railing, 2 holes on parallel edges
Spacer		Used to space out pickets
Picket		Metal rod that sits in between top and bottom rail



14x2 Screw		Used to fasten posts on concrete steps
14x3 Screw		Used to fasten posts on wood decks
12x1 1/2 Screw		Used to fasten pickets on to stair posts
12/3/4 Screw		Used to fasten top and bottom rail to pickets and fasten top rail to posts for flat handrails
Concrete plug		Inserted into concrete hole after drilling
Top Rail		
Bottom Rail		
Handrail Bracket		Secures 36-inch handrail to end posts

## Appendix B Tools

Tool	Photo	Description
Impact Driver	 A Milwaukee impact driver, featuring a red and black body with a black handle and a black chuck. The Milwaukee logo is visible on the side.	Used for high torque applications such as fastening lags
Standard Power Drill	 A Milwaukee standard power drill, featuring a red and black body with a black handle and a black chuck. The Milwaukee logo is visible on the side.	Used for drilling wood, lower torque applications
Concrete Drill	 A Bosch concrete drill, featuring a blue and black body with a black handle and a black chuck. The Bosch logo is visible on the side.	Used to drill into concrete



<p>Mitre Saw (with non-ferrous blade)</p>		<p>Used to make cuts on aluminum (MUST HAVE NON-FERROUS BLADE)</p>
<p>Clamps</p>		<p>Used to clamp rails to posts for measurement</p>
<p>Shims</p>		<p>Used to level posts</p>
<p>Level</p>		<p>Used to determine if posts are level</p>

Measuring tape		Used to measure cuts
Square		Used to ensure the post is square with the edge of the deck