

**Prior to installing railing:** Please consult local zoning laws in regards to load requirements and bottom space requirements for rails. All supporting structures must be in accordance with applicable building codes. Neighborhood associations and/or historic districts may regulate size, type, placement and ability of railing. Apply for permits if required by local authorities and codes. Ensure compliance prior to installation. Local building code requirements will always supersede any and all suggested procedures and measurements in the following installation. The following installation instructions are intended as a general guideline based on common building practices used in railing installation.

**Rail Installation:** Trim both ends of rail to maintain uniform baluster spacing. Ensuring trim mark does not create an open baluster mount hole at the bracket is critical; adjust accordingly noting uniform baluster spacing.



When railing span is greater than the distance between posts, trim both top and bottom rail ends to maintain uniform baluster spacing. Measure distance, subtract 1/2" from measurement (1/4" on each side) to allow for brackets and flanges. Slide Post Sleeve Collar over each post prior to installing bottom rails and press securely into place.

## Line Rail Installation

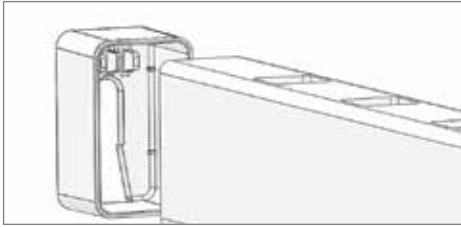
Maximum distance between posts: 6ft Rail = 72" 8ft Rail = 96"

Begin installation by ensuring posts are level and plumb. If post cove moldings are used, position them in place prior to securing bottom rail.

1. Measure distance between posts and subtract 1/2" for the brackets. Center the hole pattern aligning the top and bottom baluster holes, then cut top and bottom rails to desired length. Slide bottom rail brackets onto bottom rail. (Figure 1)
2. Secure crush block supports with supplied screw to 1/3 points of underside of bottom rail. Slide crush block onto supports. Using a level, place the bottom rail and brackets between posts. Make a light line with a pencil marking the lower edge of the bottom bracket. Remove rail and brackets.(Figure 2)
3. Remove the brackets from the bottom rail. Place the bracket with a keyway on the posts, using the line previous marked. Remove the bracket and keyway, and predrill using a 1/8" bit (keyway shown for clarity). Secure the keyway to the post using the supplied 2" screws. Repeat at other end. (Figure 3)
4. Slide the bottom brackets back in place on the bottom rail, and position above the keyways. push the bottom rail downward to fully engage with the keyways. (Figure 4)

NOTE: Balusters may vary slightly in length. Make sure all balusters are trimmed to desired length.

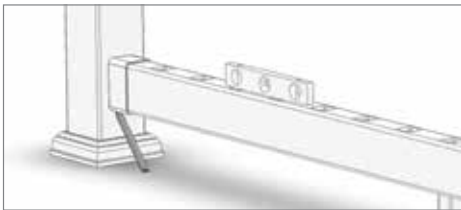
5. Fully insert a baluster into the last hole on each end of the bottom rail. (Figure 5)
6. Slide the top brackets onto both ends of the top rail. Place between posts, and lower to fully insert the two balusters in place. Mark the location of the top bracket with a light line. (Figure 6)
7. Remove rail and brackets from between the post. Remove the brackets from the top rail, then place the top brackets along with keyways on the posts, using the line previously marked. Mark hole locations, then predrill with 1/8" bit (keyway shown for clarity). Locate steel L-brackets, then secure keyway with L-bracket using the supplied 2" screws. (Figure 7)  
Keyways on posts, L-brackets on keyways.
8. Insert all balusters fully into the bottom rail, then working from one side to the other, lower the top rail and brackets into place, fully inserting all balusters until rail brackets are fully engaged with L-brackets. (Figure 8)
9. Predrill two holes with a 1/8" bit using the steel L-bracket as a guide, then secure with supplied screws. Finish the installation by positioning and gluing the post caps in place. (Figure 9)



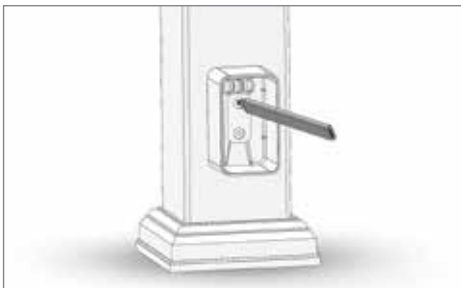
**Figure 1**



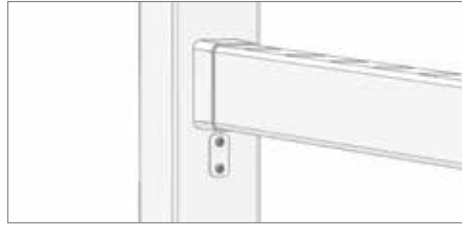
**Figure 2**



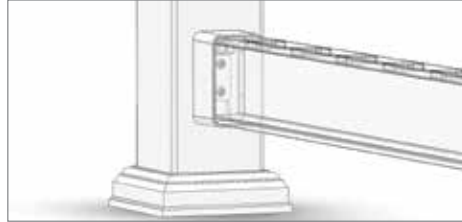
**Figure 3**



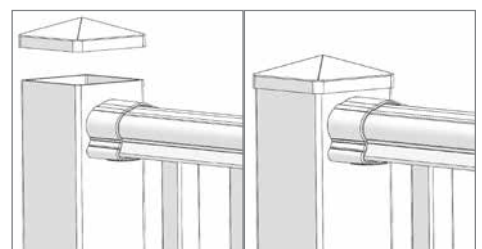
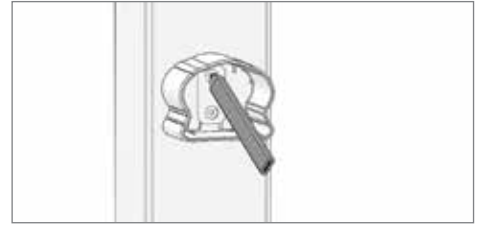
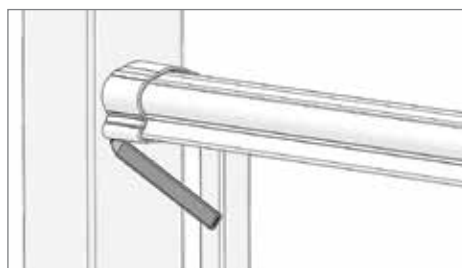
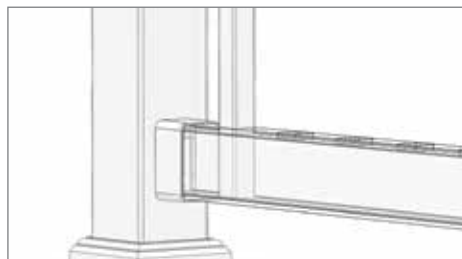
**Figure 4**



**Figure 5**



**Figure 6**



**Figure 7**

**Figure 8**

**Figure 9**

## Stair Rail Installation

Maximum length of rail for even Baluster spacing between Post Sleeves: 6ft Rail: 66 1/4"

Maximum inside distance between Post Sleeves: 6ft Rail = 57"

Begin installation by ensuring posts are level and plumb. If post cove moldings are used, position them in place prior to securing bottom rail.

Tip: Lay the bottom rail, with the routed holes upward, onto a 1/4" (6 mm) wood spacer located between the posts. This provides the rail spacing between the rail and stair treads and helps to stabilize the setup.

1. Position the bottom rail alongside the posts. Center the hole pattern, then transfer the angle to the bottom rail using a speed square or adjustable carpenter's square. (Figure 1)
2. Transfer the angle to the brackets, making sure to leave an inch or more of face at narrow end. Align the top rail baluster pattern with the bottom rail, and transfer cut locations and angles. (Figure 2)

Tip: slide brackets onto the bottom rail prior to cutting angles, and cut both bracket and rail simultaneously. Position the bottom rail and brackets between posts and check for snug fit. Locate bracket holes on the posts with a light line, then remove the rail.

Tip: using a 6" long 1/8" drill bit will speed assembly. Predrill holes using a 1/8" bit. Replace the rail into the brackets, and secure using supplied 3" screws.

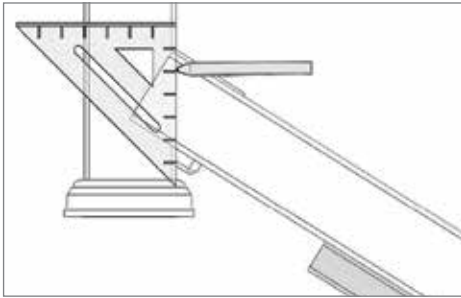
NOTE: it may be necessary to notch the bottom bracket to clear the top baluster hole.

3. Transfer angle to balusters and trim angles on both ends.

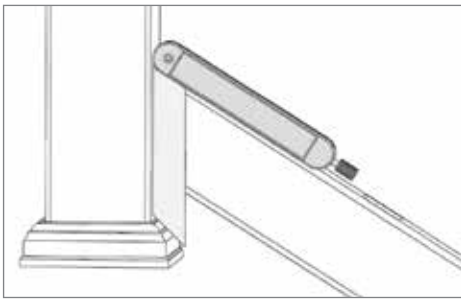
NOTE: baluster lengths can vary slightly. Make sure all trimmed balusters are the same length.

Fully insert balusters adapters into the holes in bottom rail, then slide balusters over the adapters. (Figure 3)

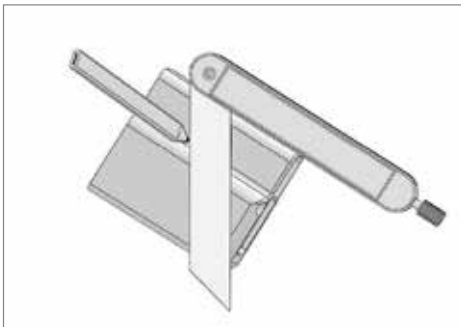
4. Insert the top rail into the top brackets prior to cutting to desired length. Insert adapter into all holes noting direction of angled fin. Position top rail and brackets between posts and check for snug fit. Lower top rail and adapters onto balusters working from one end to the other. (Figure 4)
5. Pre-drill holes using a 1/8" bit, then secure top brackets with supplied 3" screws. (Figure 5)
6. Complete assembly by positioning and gluing post cap in place. (Figure 6)



**Figure 1**



**Figure 2**



**Figure 3**



**Figure 4**



**Figure 5**

