

Professional Railing **INSTALLATION**

In-Line Railing Section Installation Instructions

BEFORE INSTALLING RAILING:

- Identify all parts (top rail and subrails) of this composite two part system (figure a).
- Install 4 X 4 (maximum size 3.5"x3.5"). Some trimming may be required) wood posts in the pre-determined locations, cover the wood post with Fiberon post sleeve. Posts should be plumb in both directions.
- Install base cove moulding (if desired).
- Identify all hardware components:

- (4) In-line brackets (post to rail connections)
- (8) #10 - 3/4 inch long phillip's head screws (bracket to lower subrail only)
- (8) # 10 - 1 3/8 inch long phillip's head screws (bracket to upper subrail only)
- (8) # 10 - 1 3/8 inch long phillip's head screws (upper subrail to top rail)
- (17) # 10 - 2 inch long phillip's head screws (brackets to post only)
- (42) # 10 - 1 3/4 inch long phillip's head screws (subrails to balusters only)
- (1) phillip's head driver

ASSEMBLE RAIL SECTIONS

1. Ensure posts are plumb. Use a level or measure the distance between installed posts at various heights. Check to determine the distance does not vary more than 1/16 of an inch (figure b).
2. Cut the three rail components to fit between the posts, i.e., top rail and subrails (upper and lower). Cut square to ensure a good fit against the post.
3. Determine spacing for balusters. Typically, building codes require spacing between balusters to be less than 4 inches.
4. Mark the center location for each baluster on the upper subrail as shown in (figure c). Transfer these locations to the lower subrail by laying the upper subrail alongside the lower subrail.

NOTE: Don't position screws within 2-1/2 inches of the end of the rails which is reserved for rail/post bracket installation.

5. Pre-drill holes using a 7/32 inch diameter drill bit for all pre-marked locations (failure to pre-drill may result in balusters that crack when screws are driven).
6. If desired, the screws on the lower subrail may be hidden by drilling 3/8 inch counter-bored holes for all screw hole locations in the lower subrail (figure d).
7. Trim all 3/2 inch balusters to the desired length (balusters are not P.E.T).
8. Using a 1/8 inch bit, pre-drill holes that are 2 inches deep, centered in each end of the baluster. Remove materials by withdrawing the drill bit occasionally.

NOTE: Failure to fully pre-drill the baluster holes with the correct size drill bit may result in the balusters splitting when fastened.

9. Place a #10 - 1 inch long cap screw into each of the counter-bored holes in the lower subrails (figure d).
10. Secure a baluster in each location of the lower subrail. Ensure balusters are against the baluster stop. **Do Not Over Tighten Screws**

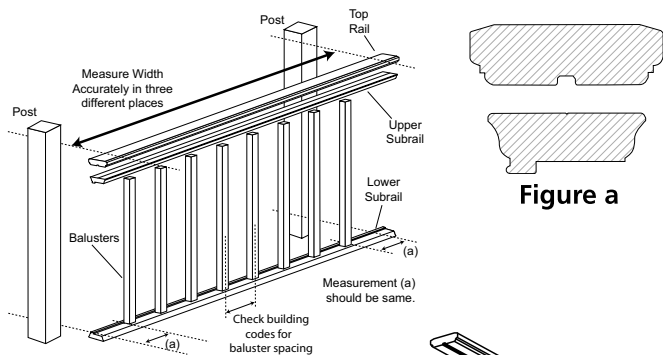


Figure b

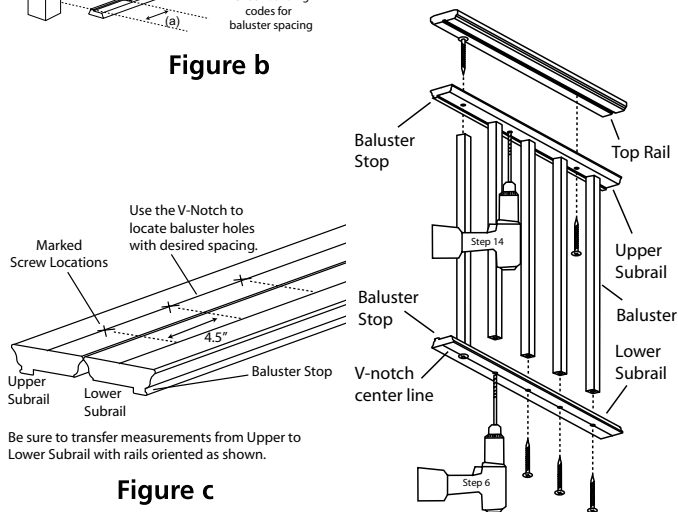
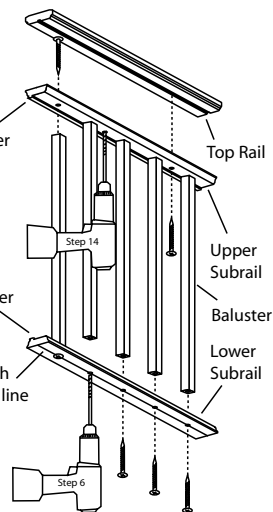


Figure c

Be sure to transfer measurements from Upper to Lower Subrail with rails oriented as shown.



Drill 3/8" counter bore holes 1/2" deep prior to fastening (optional).

Figure d

11. Secure the balusters in each corresponding location of the upper subrail using #10 - 1 inch long cap screws. Ensure balusters are against the baluster stop. **Do Not Over Tighten Screws**

ATTACH THE TOP RAIL

12. Mark 8 separate hole locations equally spaced along the groove on the top surface of the upper subrail. Choose locations mid-point between the balusters.
13. Drill using a 7/32 inch diameter drill bit through the upper subrail.
14. Drill 3/8 inch counter-bored holes from the baluster side of the upper subrail. This step is optional. Use only if attempting to hide the screw heads (figure d).
15. Center the top rail on the upper subrail. The baluster screw heads will help you with proper alignment.
16. Using the holes created in step 12, mark hole positions on the top rail.
17. Using a 1/8 inch bit, drill holes that are 3/4 inch deep into the top rail.
18. Secure the top rail to the assembly using eight #10 - 1 3/8 inch long cap screws. **Do Not Over Tighten Screws**

INSTALL THE RAIL BRACKETS

19. Using a mounting bracket as a template, center the bracket on the bottom surface of the lower subrail and 1/16 inch from the end of the guardrail (figure f). This promotes a tight fit by drawing the rail toward the post.
20. Mark the four hole locations on the lower subrail and pre-drill using a 1/8 inch drill bit, approximately 1/2 inch deep.
21. Attach the bracket to the lower subrail using four #10, 3/4 inch long screws. **Do Not Over Tighten Screws**

NOTE: If longer screws are used, the screws may be exposed on the top surface of the lower subrail.

22. Repeat steps 19 - 21 for the other end of the bottom guardrail.
23. Repeat steps 19 - 22 for upper subrail/top rail assembly by centering the bracket on the bottom surface of the upper subrail/top rail assembly. Use four, #10 1-3/8 inch long screws to secure the bracket to the upper subrail/top rail assembly.
24. Cut two crush blocks from excess baluster materials. Check building code requirements for maximum spacing between the walking surface and the bottom rail; typically the maximum heights range between 2 - 4 inches.
25. Space the crush blocks equidistant between the posts (figure e). This will look best if located directly under one of the balusters.

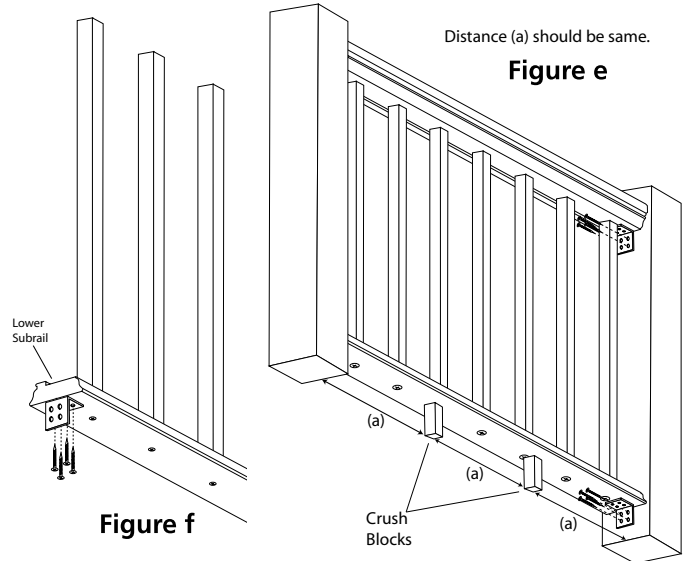


Figure f

26. Center the assembled section between the posts while laying the assembled section onto the crush blocks.
27. Double check and ensure the guardrails are level.
28. Mark the screw locations on the posts for both ends of the lower subrail using the mounting brackets as templates.
29. Drill holes using a 1/8 inch drill bit at marked screw locations approximately 2 inches deep. If needed, remove assembled section for ease of drilling.
30. Attach lower subrail post brackets to the post with 4 - 2 inch long screws on each end of the guardrail. **Do Not Over Tighten Screws**
31. Center the upper subrail/top rail assembly on the post. Mark hole locations on the posts using the brackets as a template.
32. Drill holes using a 1/8 inch drill bit at marked screw locations approximately 2 inches deep. If needed, pull slightly the assembled section away from post to accommodate drilling into the post.
33. Attach an upper subrail/top rail assembly bracket to the post with 4 - 2 inch long screws on the end of guardrail. **Do Not Over Tighten Screws**
34. Repeat steps 31 - 33 for the other end of the upper subrail/top rail.
35. Apply PVC adhesive (not supplied) to the crush blocks and secure to the underside of lower subrail.
36. Secure post caps using adhesive on the inside corners of the post cap.
37. Push caps firmly onto the post.