RAILING INSTALL GUIDE.
TOOLS NEEDED

- 100 tooth Circular or Miter saw using a carbide-tipped blade
- #2 square drive screw bit
- Cordless drill with 5/32” drill bit
- Level
- Tape measure
- Hacksaw or Sawzall
- PLR construction adhesive

READ ALL INSTRUCTIONS COMPLETELY BEFORE STARTING.

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LEVEL RAILING INSTALL

EACH PERFORMANCE RAILING KIT CONTAINS:

- Top & Bottom PVC Rail
- Aluminum Top Sub Rail
- Level/Stair installation hardware: Brackets, Fasteners, Baluster for Spacer Block & Crush Block
- Balusters are sold separately in cartons of 14 for 6-foot Kits & 19 for 8-foot Kits for both 36” and 42” Rail heights

! When using a drill gun, be sure to set the appropriate choke setting to avoid over torque and stripping fasteners.

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1 POST SLEEVE INSTALL

- Slide Post Skirt over standard pressure treated 4x4 Structural Post.
- Install Post Sleeve over 4x4 Structural Post (Be sure fit isn’t too tight).
- Measure Distance between mounting surfaces of posts.
- Add 3/4” x 2-1/4” Wood Block (not supplied) between the Post Sleeve & 4 x 4” Structural Post before installing Top Bracket in Step 6. Block must be 6” or longer. *(Note: length of block must not exceed length of the Post Sleeve).*

**OPTIONAL:** A Structural Steel Post (SMI-100) is available when 4x4 post is not used.

2 BOTTOM RAIL & ALUMINUM TOP SUB RAIL CUTTING

A. Bottom PVC Rail

- Locate center of Rail.
- Measure & cut equal distance off center of both ends to get correct final length.

**NOTE:** For an even number of Balusters, the center point of the Bottom Rail is between two Baluster holes. For odd number of Balusters, the center is in the middle of a Baluster hole.

To determine Balusters needed, divide needed length of Bottom Rail by 4.87. Round up to a whole number to get number of Balusters. For Example: a 65” section will require 13 (65 divided by 4.87) Balusters.

B. Top Aluminum Sub Rail

- Cut Aluminum Top Sub Rail using same method as Bottom Rail, only reducing the length of cut by 1/8” at each end.
- Aluminum Top Sub Rail should measure a total of 1/4” shorter than Bottom Rail.
- Ensure equal spacing between the two end Balusters’ pre-drilled holes and the ends of the Aluminum Top Sub Rail and pre-punched markers for Bottom Rail.

**DO NOT** cut PVC Top Rail at this time.
3 BOTTOM RAIL BRACKET INSTALL

- Position Bracket in center of post (2-5/8” on 5-1/4” Post Sleeve) so lower edge of Bottom Bracket is no more than 3” from Deck surface. Mark position of lower edge of Bottom Bracket, add 5/16” and drill a 5/32” hole.

**Check Local Building Code for any exceptions.**

- Install #10 x 2-1/4” screw to within 1/8” of mounting surface.
- Check screw head clearance using Bottom Bracket and adjust clearance between screw head and Post mounting surface to obtain a snap-in fit.

**DO NOT** secure Bottom Bracket to Post Sleeve at this time.

4 RAILING & BALUSTER ASSEMBLY

- Lay out Bottom Rail, Balusters & Aluminum Top Sub Rail on a non-abrasive flat surface such as cardboard.

**A.** Using a 5/32” bit, Pre-drill hole through Bottom Rail at marked indentations for Bottom Baluster screws. Be sure these align with pre-drilled holes in Aluminum Top Sub Rail after it is cut to length. Use Aluminum Top Sub Rail as template for drilling Bottom Rail.
  - If different Top Rail height is desired, cut Balusters to desired length.

**Check With Local Building Code for Rail height compliance.**

- Install Bottom Bracket to Bottom Rail using supplied #10 x 1/2” pan head screws in hole at end of Bracket.
  - Mounting Tab should be facing down and flush with end of Bottom Rail.

**NOTE:** Hinge Bracket works with level & stair application.

**B.** Align Balusters with pre-drilled holes in Bottom Rail. Using supplied #8 x 1-1/2” bugle head screws, fasten ends of Balusters to Bottom Rail. The bottom of the Balusters should rest against the raised edge on top of the Bottom Rail. The ends of the two bottom Baluster screws should go through the long slot in the Bottom Bracket and into the Baluster.
  - To ensure proper spacing, cut supplied Baluster as a spacer - 3-5/8”. Maintain maximum and equal spacing between Balusters.

**C.** Position Bottom Rail 1-1/4” flat Aluminum Stiffener inside center of Bottom Rail cavity and secure with two #10 x 1/2” screws. (See Section 5 on Crush Block Install.)

**D.** Position Aluminum Top Sub Rail on Baluster ends and screw top of two end Balusters through Aluminum Top Sub Rail. Secure remaining Balusters. Use spacer block, if needed.
5 INSTALL CRUSH BLOCK & MOUNTING RAIL SECTION

- Cut Crush Block to correct length for installation into cavity of Bottom Rail in center. From the supplied Baluster, use the end with the shaved sides for ease of installation into Bottom Rail cavity.
- To get correct length, measure distance from walking surface to bottom edge of Bottom Rail and add 1-3/16".

**Crush Blocks are cut from extra Baluster in Rail Kit.**

- Use one Crush Block for 6-Foot Kits and 8-Foot Kits.
- This should be a tight fit from Bottom Rail to Deck surface as the Crush Block is required to eliminate any sagging of the Railing between the Posts.
- Insert Crush Block into center of Bottom Rail cavity.
- Take entire Rail & Baluster assembly and lift into place sliding Bottom Rail Bracket over bottom mounting screw.

A. 8' Kit

B. 6' Kit

6 SECURING TOP RAIL BRACKETS

A. Before securing the Top Rail Bracket, make sure the Wood Block is in place. (See Step 1.)

- Slide Top Rail Bracket onto top section of a Aluminum Top Sub Rail flush with end.

**NOTE:** Top Rail Bracket works with level & stair applications.

- Face vertical mounting tabs at end for level applications.
- With Railing assembly resting on Bottom Bracket Screw, position Aluminum Top Sub Rail square and plumb with Bottom Rail centered on Post Sleeve.
- Pre-drill 5/32" through Bracket holes & screw Bracket to Post. The #10 x 3" Screws enter at an angle toward center of post.

B. Attach Top Rail Bracket to Aluminum Top Sub Rail with supplied #10 x 1/2" screw. Before securing, align Aluminum Top Sub Rail to ensure uniform spacing between end Balusters and Post Sleeves.
**TOP RAIL INSTALLATION**

- Measure distance between Post Sleeves at top and cut PVC Top Rail to this dimension.
- Position Aluminum “U” Channel Spacer over top of Aluminum Top Sub Rail in center of span.
- Drop PVC Top Rail down over installed Aluminum Top Sub Rail and secure with supplied #8 x 1-1/2” pan head screws up through bottom of Aluminum Top Sub Rail into PVC Top Rail.

**NOTE:** If there is no available hole in the Aluminum Top Sub Rail between the Baluster and Post Sleeve, Pre-drill Aluminum Top Sub Rail and install screw at closest distance to Post Sleeve as possible.

- Install Post Cap.

**DO NOT** over tighten and make sure screws do not penetrate the top of the PVC Top Rail.
1 POST SLEEVE INSTALLATION

• Same as Level Instructions (Page 3)

2 BOTTOM RAIL & ALUMINUM TOP SUB RAIL LAYOUT

• Lay Bottom Rail between Posts, resting the Rail on the steps.
• Balance out Balusters on both ends with equal and maximum spacing to the ends.
• Mark Bottom Rail where it intersects with Posts for both length & angle.
• Aluminum Top Sub Rail will be marked the same way, but deduct 1/8” from both ends.

Make certain both Bottom Rail & Aluminum Top Sub Rail spacing match.

3 BOTTOM RAIL & ALUMINUM TOP SUB RAIL CUTTING

• Cut Bottom Rail to length by locating center.
• Measure & cut equal distance off the center to both ends to get correct final length.
• Cut Aluminum Top Sub Rail using same method as Bottom Rail, only reducing length of cut by 1/8” at each end.
• Aluminum Top Sub Rail should measure total of 1/4” shorter than Bottom Rail.

Ensure equal spacing between two end Balusters’ pre-drilled holes and the ends of the Aluminum Top Sub Rail and pre-punched markers for Bottom Rail.

DO NOT cut Top Rail at this time

• Both rails will be cut at same angle as marked at Top Post & Bottom Post.
4 BOTTOM RAIL BRACKET INSTALL

- Position Bottom Bracket in center of Post (2-5/8” on 5-1/4” Post Sleeve). Position of screw in center of Post will depend on the rise and run of Stair Treads. When measuring for Bottom Rail, the Rail should be no more than 3” from nose of stair tread.

**NOTE:** Check Local Building Codes for any exceptions.

- Mark position of lower edge of Bottom Bracket, add 5/16” & drill a 5/32” hole.
- Install #10 x 2 - 1/4” screw to within 1/8” of mounting surface.
- Check screw head clearance using Bottom Bracket and adjust clearance between screw head & Post mounting surface to obtain snap-in fit.

5 BALUSTER CUTTING

- Cut Baluster ends at the same angle as the stairs.

6 RAILING & BALUSTER ASSEMBLY

- Follow same procedure as outline in Level Railing Instructions (Illustrated on Page 3).

**NOTE:** When pre-drilling a hole through the Bottom Rail at the marked indentations, make sure to drill holes at the same angle as the stairs so screws align straight with stair Balusters. (See 4, 5 & 6 of Level Railing Install).

7 TOP RAIL INSTALL

- Follow procedure as outlined in level railing instructions (Page 5).

**Note:** Cut PVC Top Rail at same angle as the stairs.