

INSTALLATION INSTRUCTIONS - For Installations using Ornamental Round Baluster Kit

In-Line Railing Installation Instructions

For each 6' on-center railing section you will need:

- One 6' Latitudes Railing Kit which contains:
 - * 2 – top/bottom universal rails
 - * 1 – aluminum insert for top rail
 - * 1 – in-line hardware kit which contains:
 - (4) in-line brackets
 - (17) 1-1/4" long Phillips head screws
 - (17) 2" long Phillips head screws
 - (1) Phillips head driver
- Two crush blocks
- One Ornamental Round Baluster Kit which contains:
 - * 15 – 36" aluminum balusters
 - * 30 – FastBall baluster connectors
- One 52" Latitudes Post Sleeve Kit which contains:
 - * 1 – 52" composite post sleeve
 - * 1 – post base trim
- One Latitudes Post Cap for each Post Sleeve (sold separately)
- One Stair Rail Bracket Kit per section of stair railing which contains:
 - (4) hinge brackets
 - (17) 1-1/4" Hex head screws
 - (17) 2" long Hex head screws

Items you will need:

- Drill/Power screwdriver
- Miter or circular saw with carbide tip blade
- Adjustable wrench or socket wrench for bolts, etc.
- Assorted fasteners (see instructions)
- Tape measure
- Hammer
- Marked speed square
- Carpenter's level
- Carpenter's pencil
- Safety glasses/goggles
- 2 clamps
- White rubber mallet
- Hack saw
- Construction adhesive

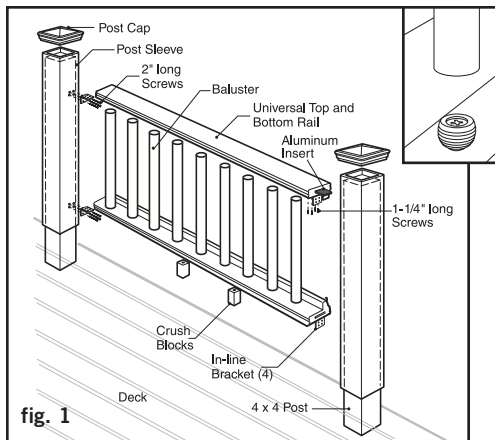


fig. 1

Prior to construction, check with your local regulatory agency for special code requirements in your area. Common railing heights are 36" or 42". Structural support should come from either the continuation of deck support posts that extend up through the deck floor or railing posts that are bolted to the inside of the rim or outer joists. Never span more than 6' between railing posts. Install railing posts before deck boards are fastened to the joists.

Pre-drilling of all railing components is essential to successful installation. Do not over-tighten screws. Read instructions completely to get an understanding of how the product goes together and how each piece affects the other.

Step 1: Determine the number of railing posts needed for your deck. Post spacing of 6' on-center is recommended. Example – a 12'x16' deck attached to a building with a 4' access opening on one side will require a total of 8 posts (Figure 2).

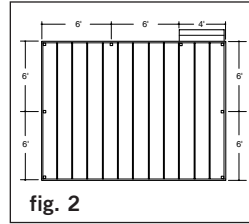


fig. 2

Step 2: Install rail posts prior to installing deck boards. Cedar or pressure-treated pine 4x4 railing posts provide the structural strength for the railing. The length of each post is determined by the total of the joist width (7-1/4") + decking thickness (1") + railing height (36") + spacing for post cap (1-1/4") = 45-1/2".

Important: Do not notch the 4x4 railing posts. Notching will reduce the strength of the post and could result in railing collapse or failure.



Step 3: Position, plumb with a level, and clamp the rail post on the interior face of the joist. Plumb again. The 4x4 railing post should be bolted to the inside of the joists using two 1/2"x6" galvanized carriage bolts. Corner posts use a third carriage bolt inserted through the adjacent joist (Figure 3).

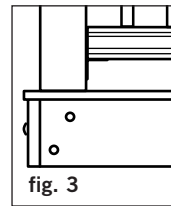


fig. 3

Step 4: Install decking; notch deck boards to fit around the 4x4 railing posts. Allow 1/4" space between the deck boards and any permanent structure or post. Additional blocking may be necessary on the 4x4 for fastening deck boards.

Step 5: Trim 4x4 post sleeves to length. Post sleeves should be a minimum of 1-1/2" longer than the railing height (Figure 4). Example – for a 36" high railing, trim post sleeve to a minimum of 37-1/2", can be left longer if desired.

Slide a trimmed post sleeve over each 4x4 railing post. Slide a post base trim over each post sleeve.

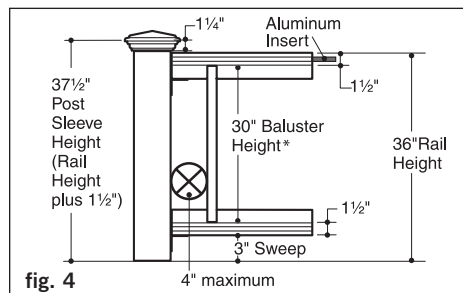


fig. 4

*42" railings will use 36" tall balusters. Adjust railing dimensions accordingly.

Step 6: Measure the distance between installed post sleeves to determine the length of the top and bottom rails. Trim the top and bottom rails to fit. Using a hack saw, trim the aluminum insert to the same length as the rails. The vertical legs of the rails face outside the deck (Figure 1).

Step 7: Place aluminum insert into the hollow space in top rail so both ends are flush. Mark top and bottom rails 4-1/2" on-center starting from the center of the rail. Rail Length ÷ 2 = Center of rail. Pre-drill each marked location on the top rail with a 5/32" drill bit. Pre-drill each marked location on the bottom rail with a 1/8" drill bit. Fasten FastBall connectors using the screws provided.

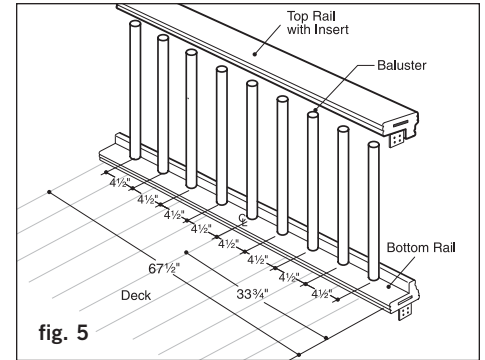


fig. 5

Step 8: Locate in-line brackets on underside of bottom rail. Using an in-line bracket as a template, inset the bracket 1/16" from end and on-center of rail, mark the four hole locations. Pre-drill each marked location with 1/8" drill bit, 1-1/4" deep, drilling into second layer of material, and attach with 1-1/4" screws (Figure 6). Repeat for the other end of rail.

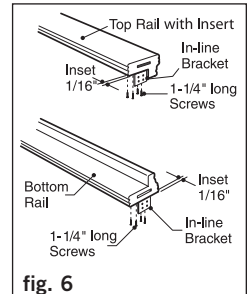


fig. 6

Locate in-line brackets on the bottom of the top rail - placing the bracket on-center of the flat area and 1/16" from end - mark the four holes. Pre-drill each marked location with 11/64" drill bit, 1-1/4" deep, drilling into second layer of material, and attach with 1-1/4" screws (Figure 6). Repeat for the other end of rail. Use the 11/64" drill bit only for connections that are through the aluminum insert. Please note that the screws must be attached through the aluminum insert.

Step 9: Check building codes for a maximum spacing between deck surface and bottom of rail (sweep). 3" is recommended but can be more or less if codes allow (Figure 4). Composite balusters or round aluminum balusters may be used for the crush blocks based on preference. Cut two crush blocks to desired height and place equal distance from each post. If using composite baluster crush blocks, glue them to the bottom rail with construction glue. If using round aluminum baluster crush blocks, fasten FastBalls to bottom rail and sleeve crush blocks over FastBalls. (Refer to Figure 1).

Step 10: Position the bottom rail between posts. Mark screw locations on-center of post sleeve using the bracket as a template and pre-drill using a 1/8" drill bit. Attach bracket to the post with (4) 2" long screws at one end of bottom rail. Level bottom rail and repeat marking and pre-drilling the post sleeve for the other end. Attach to post with (4) 2" long screws.

Step 11: Determine the length of the balusters (Figure 4). Figure 4 illustrates how a 36" high railing might be sized. Starting with a 3" sweep plus 1-1/2" for the bottom railing, 30" baluster height plus 1-1/2" for the top rail equals a 36" rail height. If these are the dimensions that you are going to use, cut the balusters to 30" length using the miter saw. 42" railings use 36" balusters. If you want to have your railing at a different height, use Figure 4 as a planning tool to determine the height to cut the post sleeves and the balusters. Note: Use a fixture to ensure a consistent length (+/- 1/16").

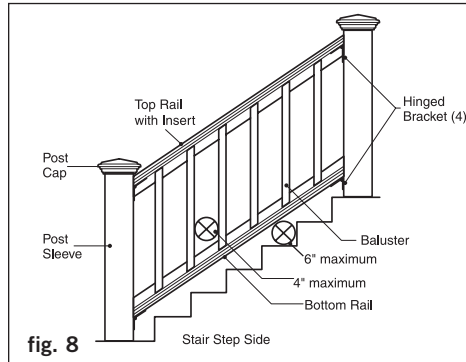
Step 12: Slide the balusters over each FastBall baluster connector on the bottom rail. Use a rubber mallet to tap the balusters onto the FastBalls if needed.

Continued on back.

Ornamental Baluster In-Line Railing Installation Instructions continued.

Step 13: Install top rail, fitting balusters on each FastBall connector as you work across. Gently tap the top rail with a rubber mallet to eliminate any gaps. Check for level end to end and vertically.

Stair Railing Installation Instructions for installations using Ornamental Baluster Kit



Step 1: Cedar or pressure-treated pine 4x4 railing posts provide the structural strength for the railing. The length of each post is determined by the total of the stair stringer width (7-1/4") + decking thickness (1") + railing height (36") + spacing for post cap (1-1/4") = 45-1/2".

Step 2: Position, plumb with a level, and clamp the rail post on the interior face of the stair stringer. Plumb again. The 4x4 railing post should be bolted to the inside of the stair stringer using two 1/2" x 6" galvanized carriage bolts. Corner posts use a third carriage bolt inserted through the adjacent joist. Ground level posts should be set in concrete.

Step 3: Complete stair tread installation prior to installing post sleeves. Trim 4x4 post sleeves to length. Post sleeves should be a minimum of 1-1/2" longer than the railing height. Slide a trimmed post sleeve over each 4x4 railing post. Slide a post base trim over each post sleeve.

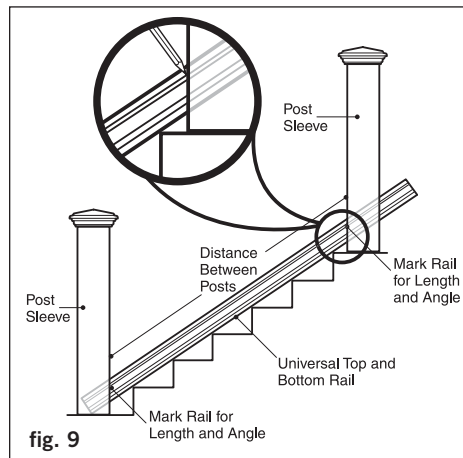
Step 4: Measure the distance between installed post sleeves to determine the length of the top and bottom rails. Lay bottom rail on stairs. Mark the angle and length. Do the same with the top rail. Trim the top and bottom rails with the same angle. Using a hack saw, trim the aluminum insert to the same length and angle as the top rail. The vertical legs of the rails face away from the stairs (Figure 8).

Step 5: Calculate the angle of the stair railing to properly cut the ends of each baluster. The angle is based on the rise and the run measurements used to cut stair stringers (pre-cut stringers with a 6-3/4" rise and 10" run require a 34° angle).

Latitudes is not suitable for structural use. It should not be used for primary load-bearing members such as posts, joists, beams or stringers. The same common sense precautions should be taken when handling Latitudes as with wood or other building materials. Dust masks and eye protection devices are recommended to avoid possible irritation from sawdust and chips. Gloves will help to protect the hands. Hands should be washed after doing construction work.

The diagrams and instructions in this brochure are for illustration purposes only and are not meant to replace a licensed professional. Any construction or use of the product must be in accordance with all local zoning and/or building codes. The consumer assumes all risks and liability associated with the construction or use of

Attach the top rail to the post sleeves. Mark screw locations on post sleeve using the in-line bracket as a template and pre-drill using a 1/8" drill bit. Attach bracket to the post with (4) 2" long screws at one end. Level and repeat marking and pre-drilling the post sleeve for the other end. Attach to post with (4) 2" long screws.



Step 6: Check local building codes prior to trimming. Set a miter saw at the previously calculated angle. Measure and mark the balusters 1" from each end.

Step 7: Clamp the baluster to the guard and trim using a carbide tip blade. Be sure to make note of where the blade is in relation to the baluster and mark to consistently cut each baluster.

Step 8: Flip the baluster and clamp tightly. The second cut is parallel to the first cut. Place a square block against the first cut end. Spin the baluster until the full rim is in contact with the block. Tighten with a clamp and trim. The block must be square to ensure an accurate parallel cut.

Step 9: Place aluminum insert into the hollow space in top rail so both ends are flush. Measure and mark top and bottom stair rails 5-1/2" on-center starting from the center of the rail. Pre-drill each marked location on the top rail with a 5/32" drill bit. Pre-drill each marked location on the bottom rail with a 1/8" drill bit. Screw FastBall connectors on each mark using the screws provided.

Step 10: Locate the hinged brackets on underside of bottom rail. Using the hinged bracket as a template, inset bracket 1/16" from end, and on-center of rail, mark the four hole locations. Pre-drill each marked location with 1/8" drill bit, 1-1/4" deep, drilling into second layer of material, and attach with 1-1/4" Hex head screws. Do not over-tighten screws. Repeat for the other end of rail.

This product. The consumer or contractor should take all necessary steps to ensure the safety of everyone involved in the project, including, but not limited to, wearing the appropriate safety equipment. Except as contained in the written limited warranty, Universal Forest Products, Inc., does not provide any other warranty, either express or implied, and shall not be liable for any damages, including consequential damages.

Latitudes Composite Decking, manufactured by UFP Ventures II, Inc., has been evaluated by ICC-ES to be code compliant with details listed under the ESR-1573 Evaluation report. Latitudes composite material features a 15-Year Limited Warranty. Latitudes Ornamental Railing systems, assembled with metal balusters, have been evaluated by engineers at an independent, third-party

Step 14: Apply construction adhesive to the inside edges of the post caps and place over each post sleeve.

Locate the hinged bracket on underside of top rail. Using the hinged bracket as a template, inset bracket 1/16" from end, and on-center of rail, mark the four hole locations. Pre-drill each marked location with 11/64" drill bit, 1-1/4" deep, drilling into second layer of material, and attach with 1-1/4" long Hex head screws. Do not over-tighten screws. Repeat for the other end of the rail. Use the 11/64" drill bit only for connections that are through the aluminum insert. Please note that the screws must be attached through the aluminum insert.

Step 11: Position the bottom rail between the posts. Check building code requirements for maximum spacing on a staircase, typically 6". A 6" ball cannot pass through the triangle formed by the bottom rail, tread and riser. See Figure 8. Mark screw locations on-center of post sleeve using the hinged bracket as a template and pre-drill using a 1/8" drill bit. Attach bracket to the post with (4) 2" long screws at one end of bottom rail. Align bottom rail and repeat marking and pre-drilling the post sleeve for the other end. Attach to post with (4) 2" long screws.

Step 12: Composite balusters or round aluminum balusters may be used for the crush blocks based on preference. Cut two crush blocks to desired height and angle, and place equal distance from each post. If using composite baluster crush blocks, glue them to the bottom rail with construction glue. If using round aluminum baluster crush blocks, fasten FastBalls to bottom rail and sleeve crush blocks over FastBalls. (Refer to Figure 1).

Step 13: Slide the trimmed balusters over each FastBall baluster connector on the bottom rail. Use a rubber mallet to tap the balusters onto the FastBalls if needed.

Step 14: Install top rail, fitting balusters on each FastBall connector as you work across. Gently tap the top rail with a rubber mallet to eliminate any gaps. Check for plumb end to end and vertically. Attach the top rail to the post sleeves. Mark screw locations on post sleeve using the hinged bracket as a template and pre-drill using a 1/8" drill bit. Attach bracket to the post with (4) 2" long screws at one end. Plumb and repeat marking and pre-drilling the post sleeve for the other end. Attach to post with (4) 2" long screws.

Step 15: Apply construction adhesive to the inside edges of the post caps and place over each post sleeve.

test laboratory. The results demonstrate that Latitudes Ornamental Railing systems, assembled with metal balusters, when installed according to the manufacturer's installation instructions, comply with ICC-ES AC174-06, section 5.1 for use as a guardrail system. Latitudes Ornamental Railing, assembled with glass balusters, is for decorative use only and can only be used in those applications where a structural railing is not required by building codes.

Manufactured by UFP Ventures II, Inc.,
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