fiberon®

Horizon® Rail

Low Maintenance Composite Railing

2017 UPDATED INSTALLATION INSTRUCTIONS

with square composite or round metal balusters

Manufactured by

fiberon®

fiberondecking.com
800.573.8841

MADE IN USA

Horizon® Railing 6 ft. and 8 ft. Installation Instructions

Top Rail Profile

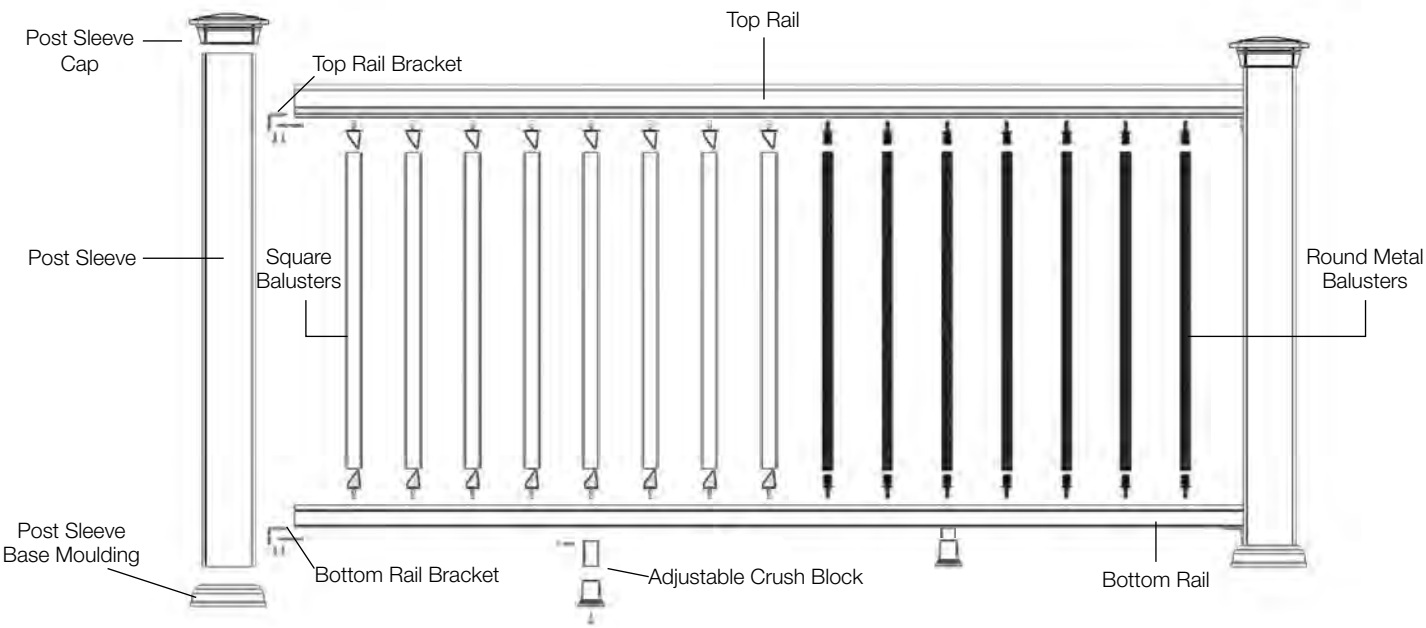
Bottom Rail Profile

Required Tools and Supplies:

- Power Drill
- 5/32 in. Drill Bit
- #2 Square Head Bit
- Protective Eye Wear
- Tape Measure
- Level
- Screw Driver, Phillips #2
- Speed Square
- Miter Saw
- Pencil
- Adjustable Square

Railing component list for each section:

Maximum length between post sleeves is 72 in. for a 6 ft. rail or 96 in. for an 8 ft. rail.



Note: Rail lengths will vary slightly due to the manufacturing processes. Make sure rails are cut to the correct length, and the hole pattern is centered between posts before securing.

Prior to installing railing: Please consult local building codes regarding 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, placement, and type of railing. Apply for permits if required and ensure compliance prior to installation. Local building code requirements will always supersede any and all suggested procedures and measurements in the following instructions. These instructions are intended as a general guideline based on common building practices used in railing installation.

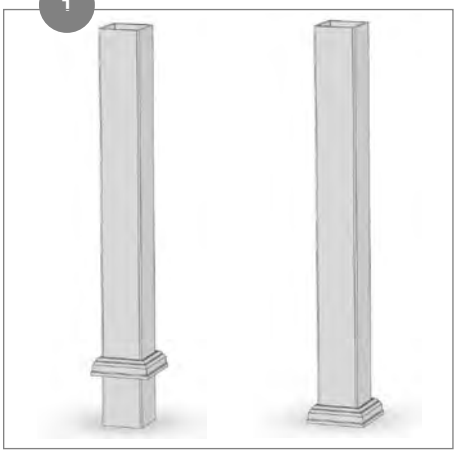
When the top and bottom rail length is greater than the distance between posts, trim both top and bottom rail ends to maintain uniform baluster spacing. Slide the post sleeve base mouldings over each post prior to installing the bottom rails and press securely into place.

Rail Installation: Before cutting, dry fit the railing between the posts to get the most uniform baluster spacing. It is critical to ensure the trim marks do not create an open baluster dagger hole at the ends of the rail where the bracket is attached. Adjust the trim lines to maintain uniform baluster spacing.

Horizon Railing 6 ft. and 8 ft. Installation Instructions

Note: Make sure the posts are plumb and true prior to installing the railing.

1



Cover 4x4 posts or Fiberon surface mount brackets with post sleeves and verify the spacing. Posts should be plumb in both directions. Place post sleeve base mouldings over the post sleeves and slide it down to the deck surface.

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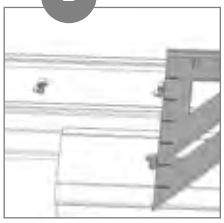
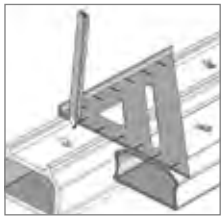
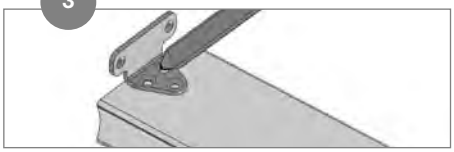




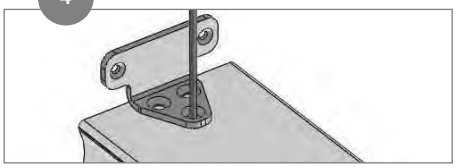
Measure the distance between posts. Center the bottom rail hole pattern within this dimension and cut to length. Place it between the posts and check for a snug fit. Align the top and bottom rail holes and mark the cut length on the top rail. Cut and test fit.

3



Flip the bottom rail so that the pre-routed holes are facing downward. Center the bracket at each end of the bottom rail. To help ensure a snug installation, allow 1/32 in. to 1/16 in. clearance between the bracket "wing" and end of rail. Mark hole locations.

4



Pre-drill holes in the bottom rail using a 5/32 in. bit (bracket shown for clarity).

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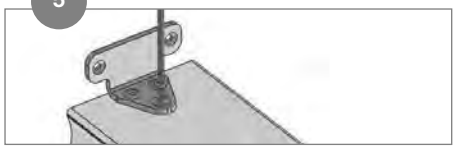

Secure the bracket with supplied 1 in. screws. Do not over tighten.

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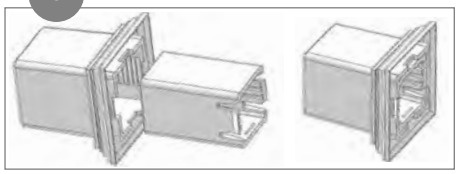

To assemble the adjustable crush blocks, push the center up through the base, making sure that the compression wings align with the ridges inside the core. Insert until the first "click" is heard. If the center is inserted too far, it can be pushed through completely.

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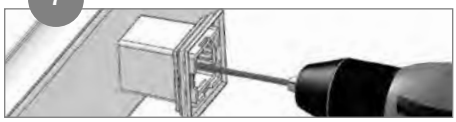

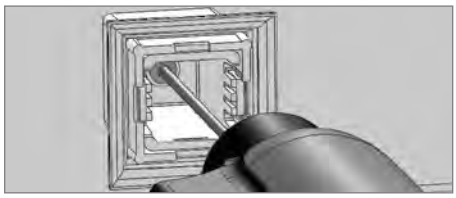

Find the 1/3 and 2/3 point on the bottom for the two adjustable crush blocks provided (white railing only has 1 adjustable crush block for centered placement). Pre-drill a hole with a 5/32 in. bit. Secure the adjustable crush blocks with the supplied 3/4 in. screws. Do not over tighten.

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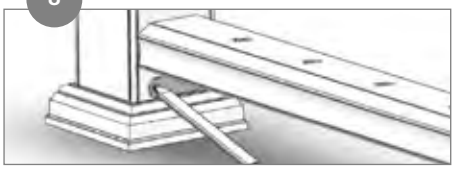

Place bottom rail between posts. Support the bottom rail level and at the desired height using the adjustable crush blocks. Using a tape measure, center the rail on the posts and mark the bracket hole locations.

9

Pre-drill the holes with a 5/32 in. bit, angling slightly upward and inward to allow for clearance from the rail when it is repositioned for securing.

Tip: An extended drill bit is recommended to prevent damage to the rail and enable a more perpendicular driving angle.

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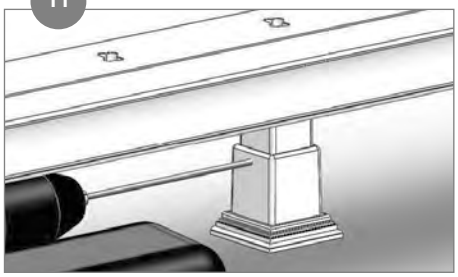
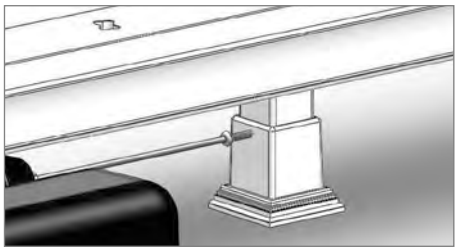
Secure the bottom bracket and rail to the post using the supplied 2 in. screws. Do not over tighten.

Tip: The use of a long bit extension or a flexible extension will help with accessing the screw heads.

11





If not previously extended, extend the adjustable crush blocks to the final height, making sure the rail is level. Lock the block in place by drilling a 5/32 in. hole into one face and securing it with the supplied 3/4 in. screws. Do not over tighten.

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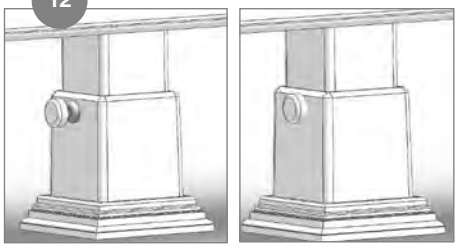
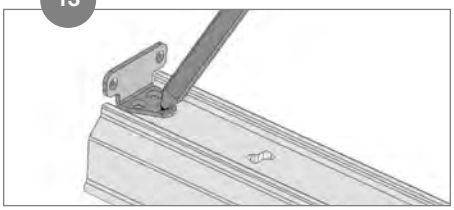


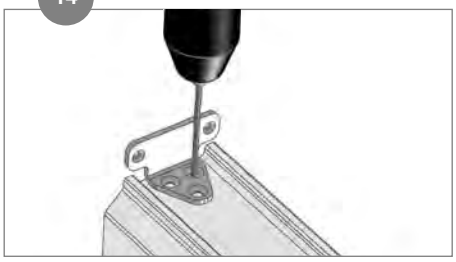
Cover the exposed head of the screw with the supplied screw cap.

13



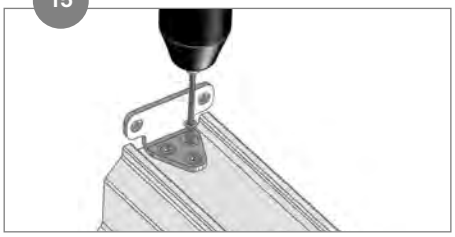
Flip the top rail so that the pre-routed holes are facing upward. Center the bracket on the rail. To ensure a snug installation, allow 1/32 in. to 1/16 in. clearance between the bracket “wing” and the end of rail. Mark hole locations.

14



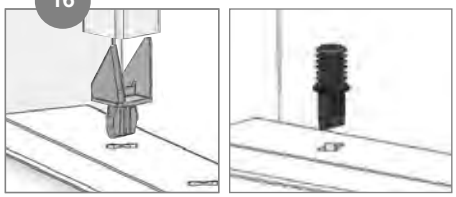
Pre-drill holes using a 5/32 in. bit (bracket shown for clarity).

15



Secure the bracket with supplied 1 in. screws. Do not over tighten.

16



If required, trim the balusters to the desired length. Then insert the bottom daggers into the two outermost dagger holes.

Note: Top baluster daggers have collars and bottom baluster daggers do not.

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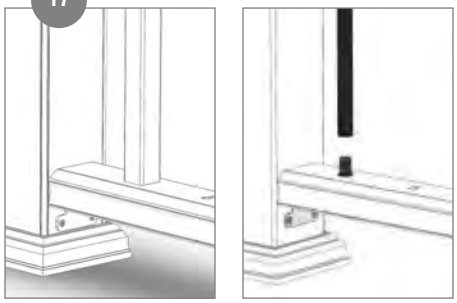

Place two balusters onto the bottom rail, one baluster on each end. Place the top daggers into the balusters.

18

Lower the top rail onto the two balusters. Be sure to line up the baluster daggers with the top rail routed holes until the top rail is fully seated on balusters.

19

Ensure the top rail is level. Mark the top rail bracket hole locations.

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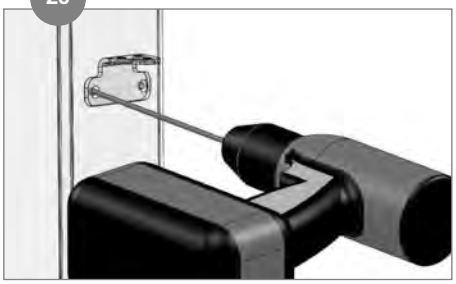
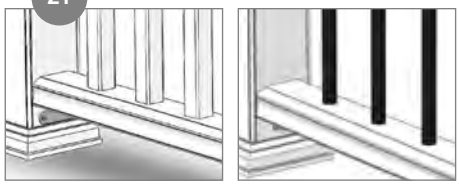


Remove top rail and balusters. Pre-drill the holes with a 5/32 in. bit, angling slightly upward and inward to allow for clearance from the rail when it is repositioned for securing (bracket outline shown for clarity - do not remove the bracket from the top rail).

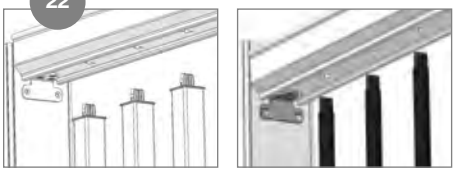
21



Insert remaining bottom daggers into the bottom rail. Fit all balusters onto the bottom rail.

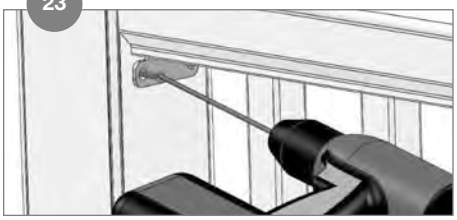
Note: Balusters can be inserted straight or sideways to allow for a diamond pattern.

22



Insert remaining top daggers, either into the balusters or into the top rail. Working from one side to the other, slowly lower top rail in place. Fully engage all baluster daggers into balusters and rails.

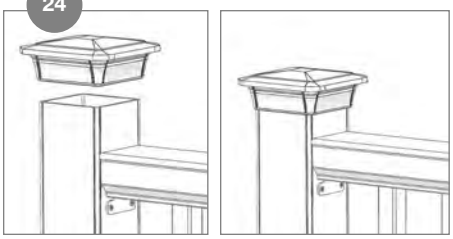
23



Secure the top bracket and rail to the post using the supplied 2 in. screws. Do not over tighten.

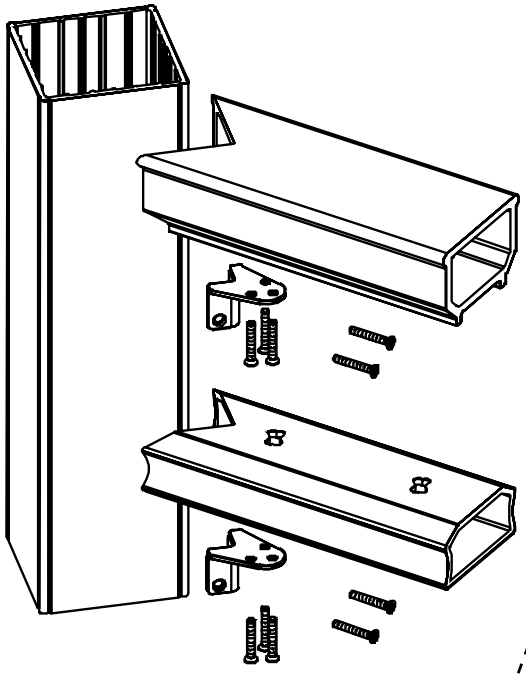
Tip: The use of a long bit extension or a flexible extension will help with accessing the screw heads.

24



Complete the assembly by positioning and gluing post sleeve caps in place.

Horizon Rail Angle Bracket Installation and Cutting Template:



(Angle bracket Kit Available by Special Order)

Rails up to 20˚ may be mounted to the post face by using the in-line "L" bracket. Cut rails at the appropriate angle to fit tight against post. Cutting rails greater than 20˚ will result in a rail that does not fully fit on the post. Angles greater than 20˚ require the use of the angle bracket.

Note: The minimum distance from post corner to the first baluster hole is 2-1/4 in.

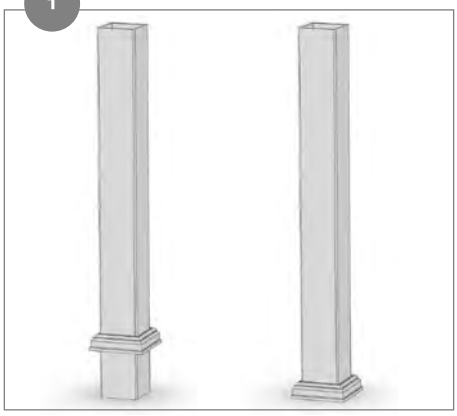
1. Determine the angle of your installation by using the supplied template.
2. Cut the template along the appropriate marked lines. (You may want to photocopy the template as a backup prior to cutting.)
3. Position the template on the non-routed flat side of the top rail. Mark the proper cutting angle.
4. Position the template on the non-routed, underside surface of the bottom rail. Mark the proper cutting angle. Template will be reversed from top rail.
5. Ensure the baluster holes are equally spaced from the end of the rail to enable proper vertical alignment.
6. Make angle cuts in top and bottom rails.
7. Align the angle brackets with the cut in the railing. Inset the bracket 1/16 in. (2 mm) from rail's end. Mark the three screw hole locations on both rails. Repeat at opposite end. Pre-drill 5/32 in. (3 mm) holes, angling slightly upward and inward at desired locations.
8. After fitting angles to posts, follow the line rail instructions (Steps 5 through 23) to complete the rail section installation.

Horizon Stair Railing 6 ft. Installation Instructions

Maximum distance between post sleeves is 56-3/16 inches for a 6 ft. rail.

Building codes are very specific on allowable angles and widths. It is important to consult with your local building code officials and plan your stair layout accordingly. Ensure that you leave adequate space for graspable hand rail if applicable. “Dry fitting” intermediate post placement will result in easier, more attractive looking installations, and may avoid placement of post mounting brackets in areas where screws cannot attach to the guardrail.

1

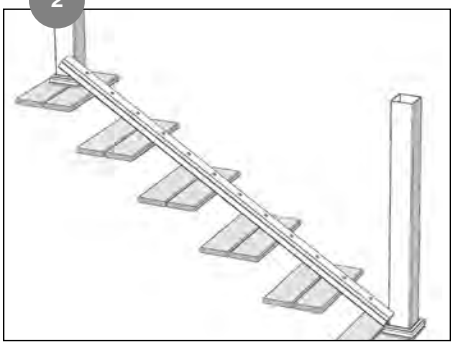


Install 4x4 posts in the pre-determined locations. Cover with post sleeve and verify spacing. Posts should be plumb in both directions. Place post sleeve base moulding over post sleeve and slide it down to the deck surface.

Note: The slope of the stairs can be 27-37 degrees.

Note: Rail lengths will vary slightly due to manufacturing processes. Make sure the rails are cut to the correct length.

2



Center the hole pattern between the posts, allowing a minimum 2-3/4 in. from rail end to routed baluster dagger holes.

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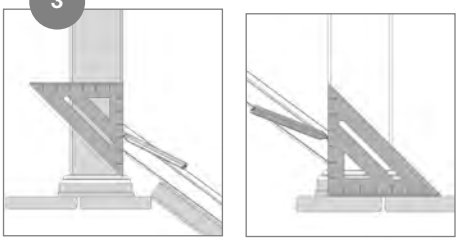
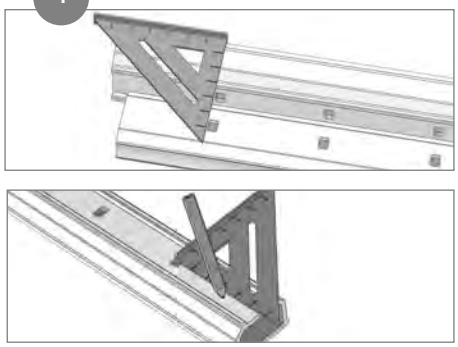


Mark the angle on the bottom rail using the inside of each post. Cut the bottom rail to the required length and check for a snug fit.

4



Measure the distance from the cut bottom rail end to the first hole. Transfer the dimension to the top rail; then, align both rails together.

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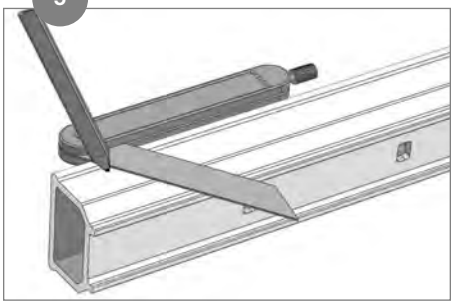
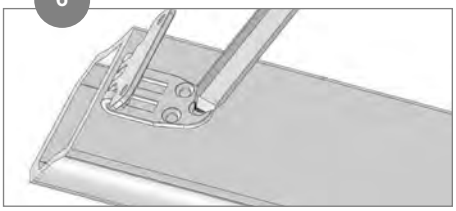


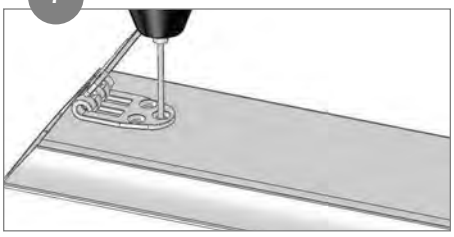
Transfer the cut angle and cut top rail to length.

6



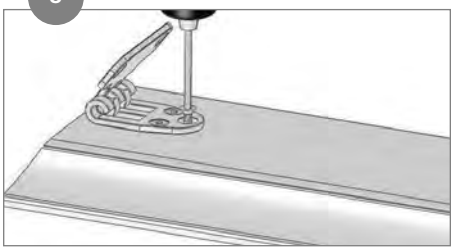
Place the brackets on the flat side of the bottom rail (no holes), and inside the channel of the top rail (with holes), making sure to leave 1/32 in. to 1/16 in. space from the cut edge of the rail. Using the bracket as a template, mark the hole locations.

7



Pre-drill holes with a 5/32 in. drill bit (bracket shown for clarity).

8



Secure brackets with supplied 1 in. screws. Do not over tighten.

Horizon Stair Railing 6 ft. Installation Instructions

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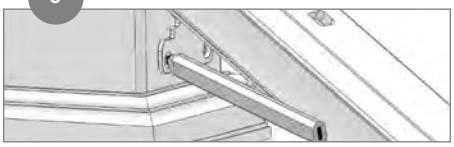

Place the bottom rail between the posts. Using the bracket as a guide, mark the location of the holes.

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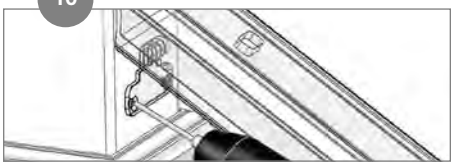


Pre-drill the holes with a 5/32 in. bit, angling slightly upward and inward to allow for clearance from the rail when it is repositioned for securing (bracket and rail outline shown for clarity.)

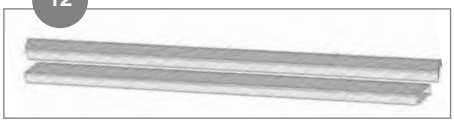
Tip: Using an extended drill bit is recommended to prevent damage to the rail and allow a more perpendicular driving angle.

11

Secure the bottom rail to the post at both ends using the supplied 2 in. screws. Do not over tighten.

Tip: The use of a long bit extension or a flexible extension will help with accessing the screw heads.

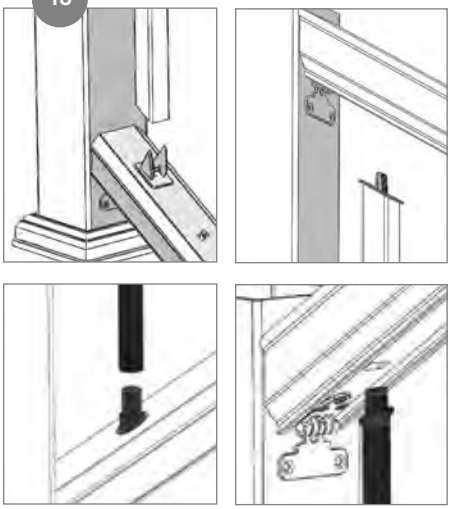
12



Mark the required stair angle on the ends of each baluster to be used and cut on the top and bottom of each baluster. Ensure that all balusters are of an equal length.

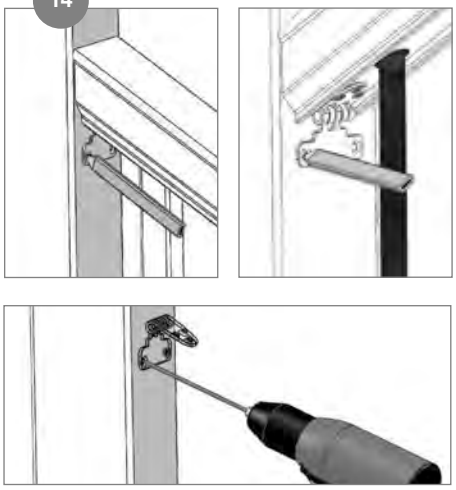
Note: Metal balusters do not need to be cut for stair angle.

13



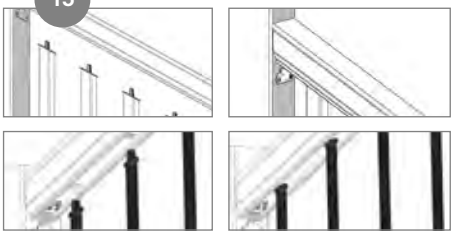
Insert a bottom dagger into the routed holes at each end of the bottom rail. Place two balusters onto the bottom rail, one baluster on each end. Insert a top dagger into the top of the end balusters. Lower the top rail onto the two balusters. Be sure to line up the baluster daggers with the top rail routed holes until the top rail is fully seated on balusters.

14



Once fully seated, mark the location of the bracket holes. Remove the top rail and pre-drill the holes with a 5/32 in. bit, angling slightly upward and inward to allow for clearance from the rail when it is repositioned for securing (bracket outline shown for clarity - do not remove from top rail.)

15



Insert remaining bottom daggers into the bottom rail. Place all balusters on bottom stair rail. Working from one side to the other, insert top daggers into remaining balusters. Slowly lower the top rail in place, aligning baluster daggers with the top rail routed holes. Fully engage all baluster daggers into balusters and rails.

16

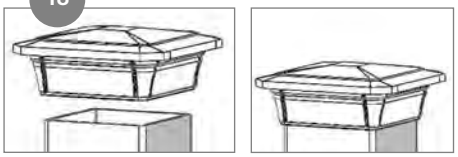
Secure the top rail to the post at both ends using the supplied 2 in. screws. Do not over tighten.

Tip: The use of a long bit extension or a flexible extension will help access the top screws.

17

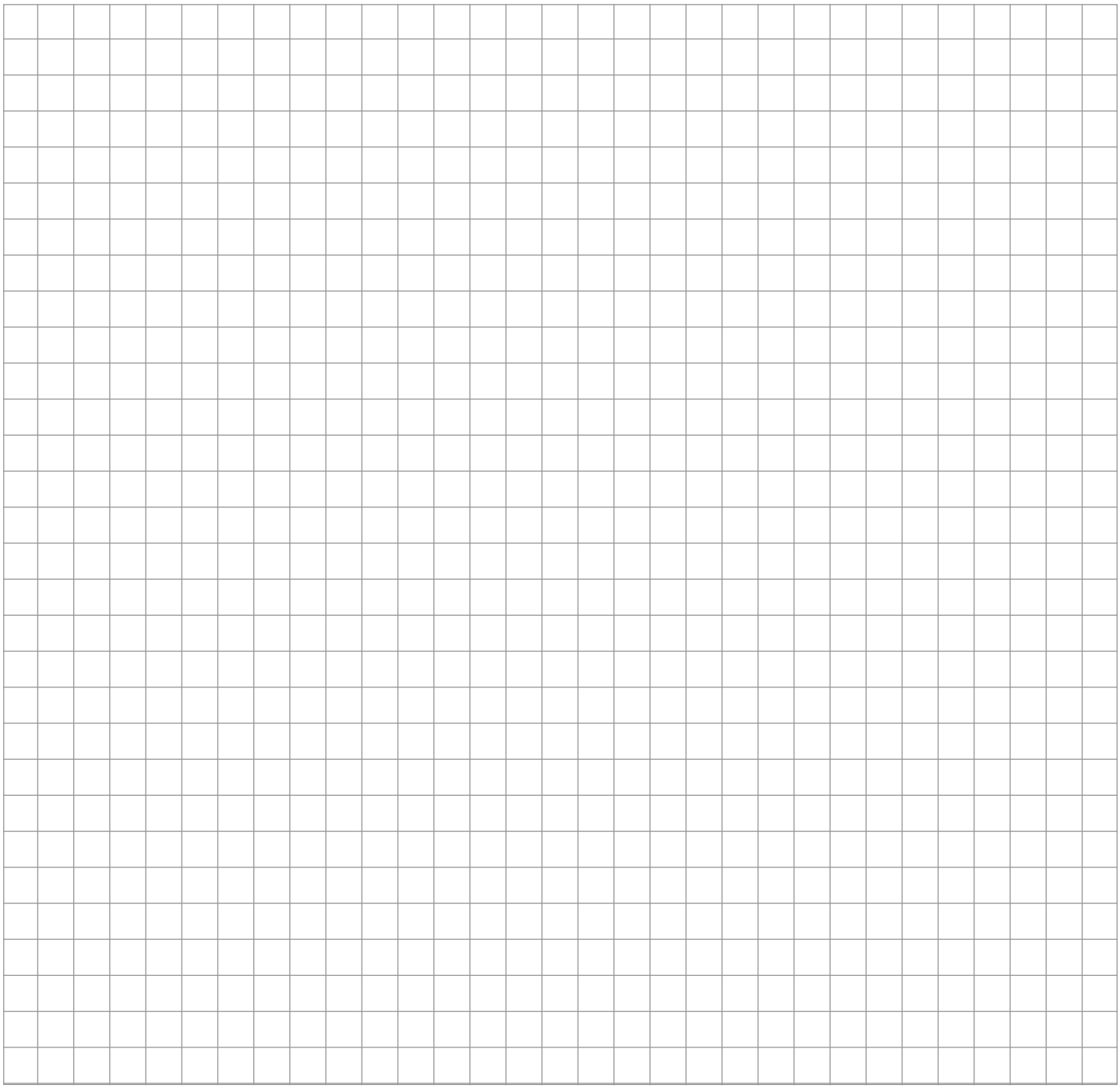
Using an extra baluster, cut two crush blocks to fit the angle and height of the bottom rail from stair treads at the 1/3 and 2/3 points. Secure them to the bottom rail using a quality exterior adhesive.

18



Complete the assembly by positioning and gluing the post sleeve cap in place with a quality exterior adhesive.

Design Grid



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