

Installation Instructions for Fortress AI¹³ HOME Traditional Adjustable Panels with Simplified Stair Brackets and AI¹³ HOME Posts

It is the responsibility of the installer to meet all code and safety requirements, and to obtain all required building permits. The deck and railing installer should determine and implement appropriate installation techniques for each installation situation. Fortress Railing Products and its distributors shall not be held liable for improper or unsafe installations.

Fortress AI¹³ HOME posts must always be secured to the deck framing. Fortress AI¹³ HOME posts should never be attached to only the deck boards.

Read Instructions Completely Before Starting Installation

Note

When cutting Fortress railing, it is very important to complete the following at cut points:

- Remove all metal shavings from the cut area.
- File any sharp edges left by cutting. Thoroughly wipe and remove any filings, grime or dirt from the railing.
- Apply two coats of Fortress zinc based touch-up paint to the cut area. If touch up is at rail ends, allow paint to dry before connecting bracket to post.
- Be sure to remove any metal shavings from the surface of deck, patio or balcony to prevent stains on the deck surface.

Torx Safety Tips

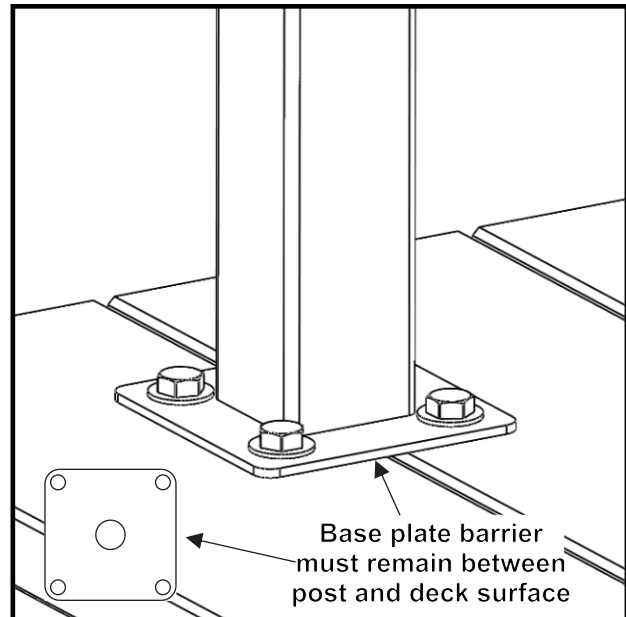
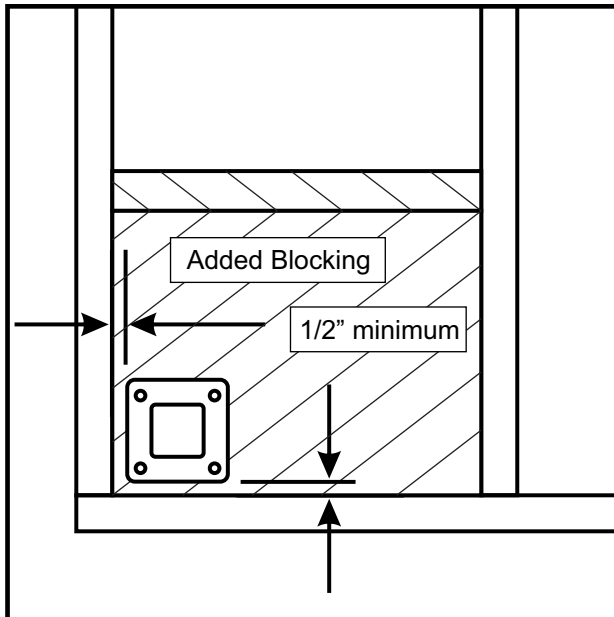
- Always use the lowest speed setting on drill.
- To reduce chance of bit breakage, start tightening with drill on low torque setting and work up until screw is secured.
- **Tip:** Pre-drill holes with 3/16" drill bit.

Required Materials

Miter saw with carbide fine tooth blade, reciprocating saw or portable band saw, T-25 driver bits, #2 phillips head screwdriver, #2 phillips head bit, 3/16" drill bit, 5/16" nut driver bit, bit extender, tape measure, socket set, speed square, touch-up paint, touch-up paint pen, center punch, level, framing square, rubber mallet, eye protection, and other personal protective equipment

Mount AI¹³ HOME Posts*

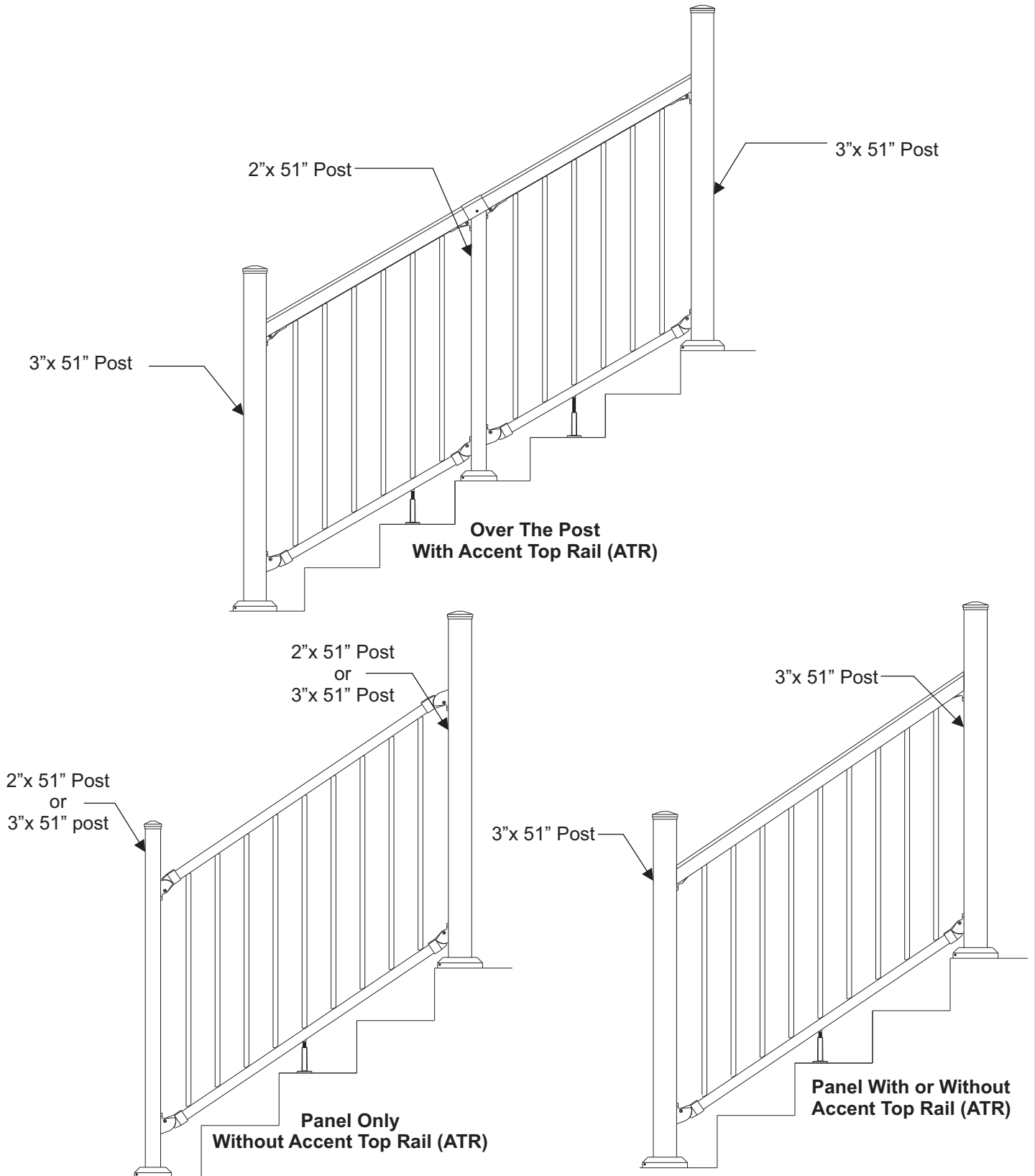
- Wood blocking tied to deck frame must be installed and constructed with treated dimensional lumber with a minimum thickness of 1-1/2".
- Position the edge of AI¹³ HOME base plate a minimum of 1/2" from the inside edge of rim joist.
- Mount AI¹³ HOME posts at appropriate points based on panel length.
- Attach AI¹³ HOME posts with 3/8" X 3-1/2" hex head galvanized bolts.



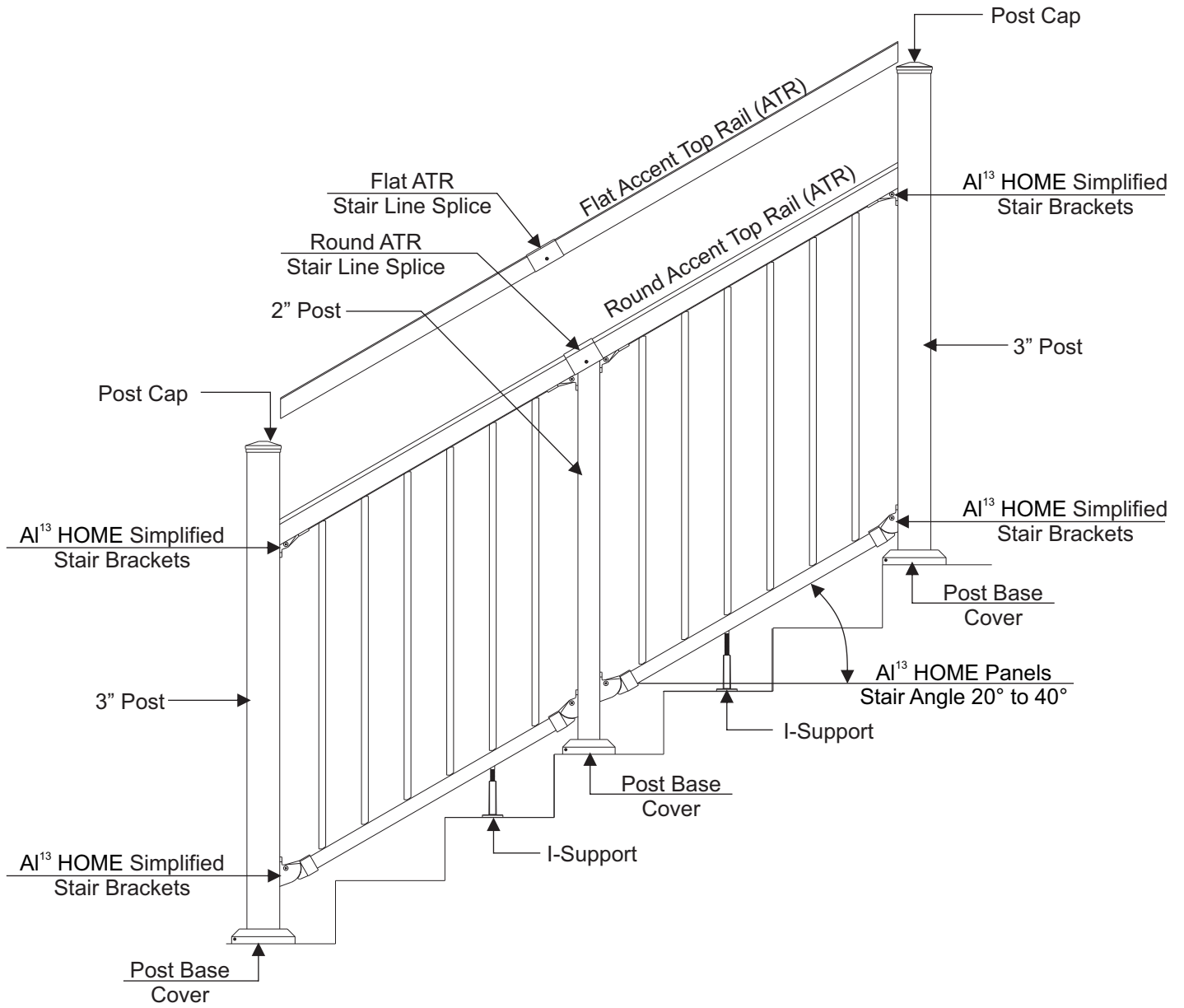
*Reference Fortress AI¹³ HOME post mounting instructions

Post Options

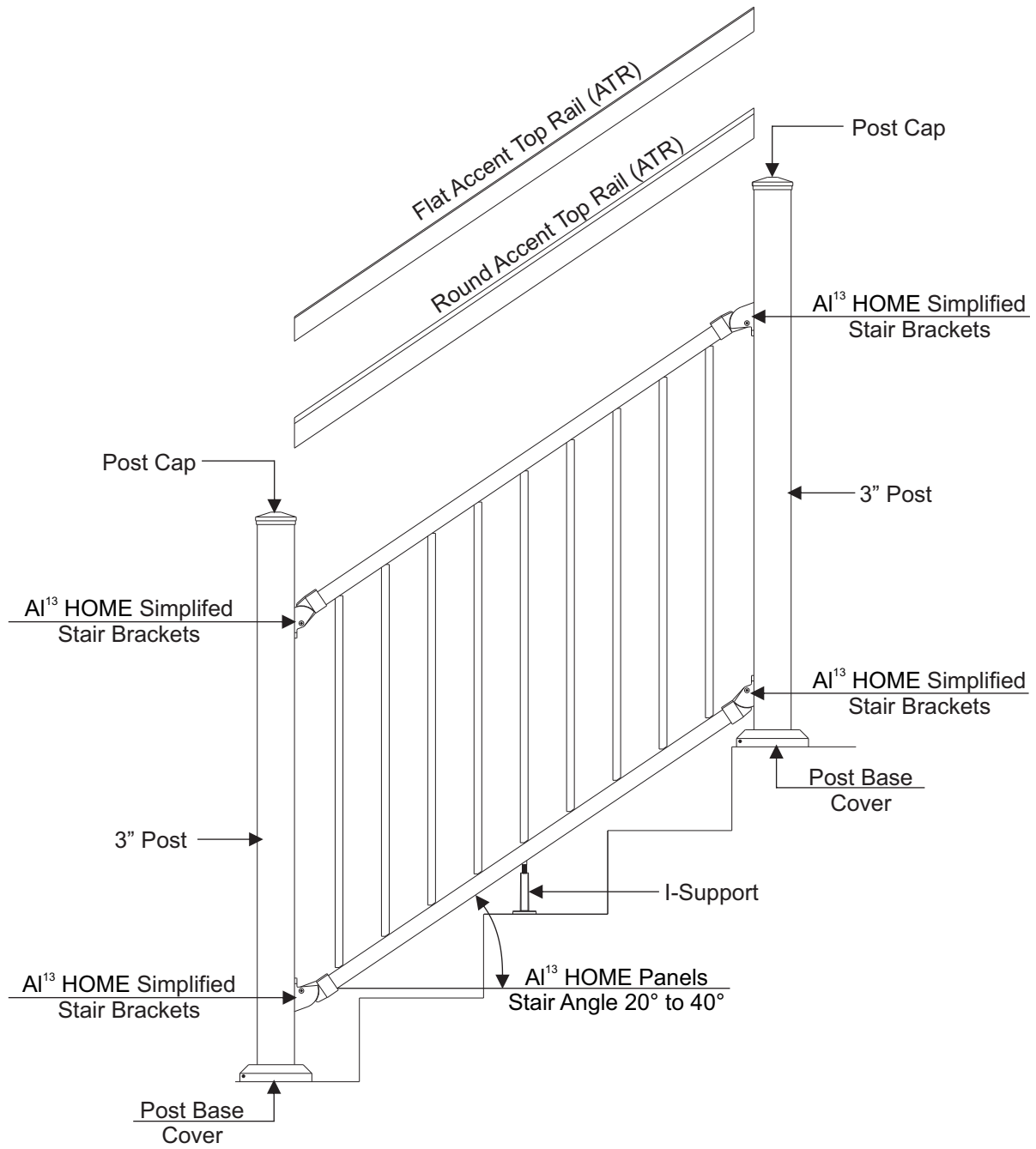
- It is recommended that a 2"x 51" or 3"x 51" post is used for all stair posts.
- If an Accent Top Rail options is installed, the 3" posts must be used on all corners and end posts.
- The 2" post must be used for a line post if you are installing an Over the Post System.
- A 2" post can be used on end post and corner post locations if the panel is installed without an Accent Top Rail.



Option One: Over The Post (OTP) With Accent Top Rail



Option Two: Proud Post With or Without Accent Top Rail



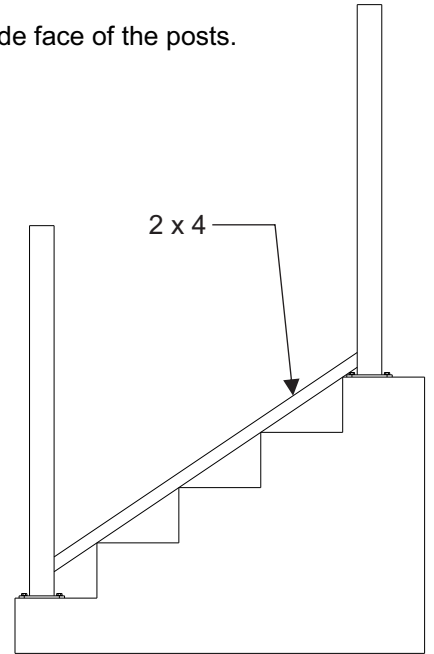
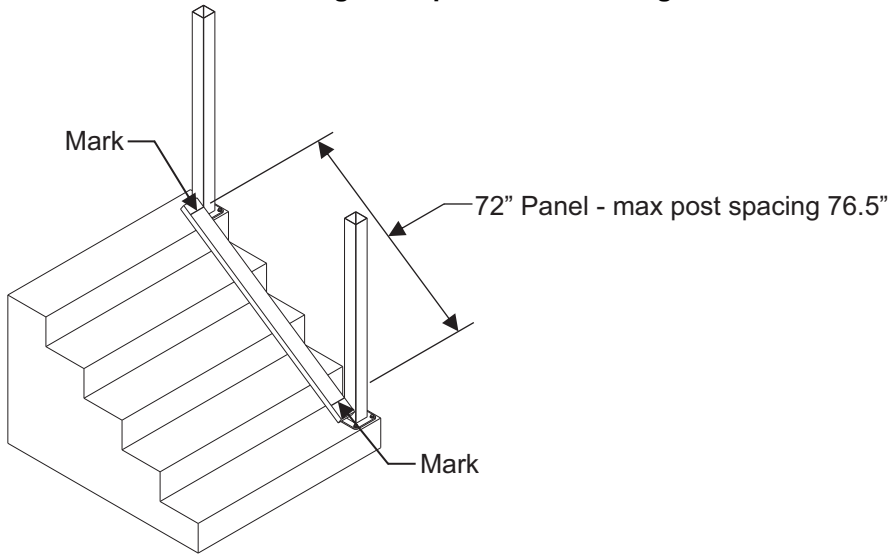
OTP and Proud Post: Max Post Spacing

- On a long straight 2 x 4, make 2 marks to measure the maximum distance for the inside face of the posts.
- Place the 2 x 4 on the nose of the stair steps next to the posts.
- Do not attach the post until the bracket locations are confirmed in the next step.

Note: Do not exceed the maximum post spacing.

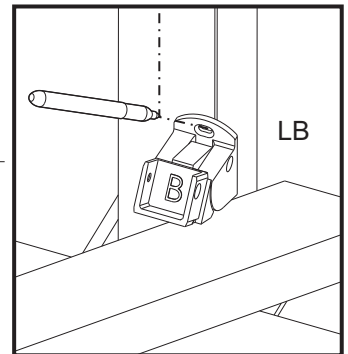
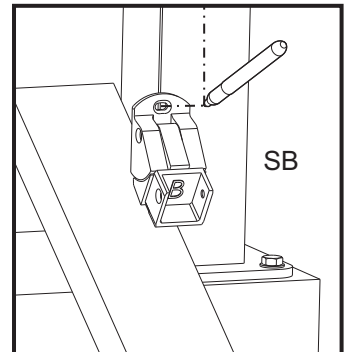
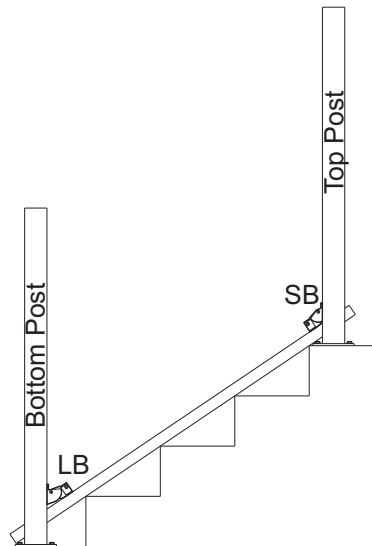
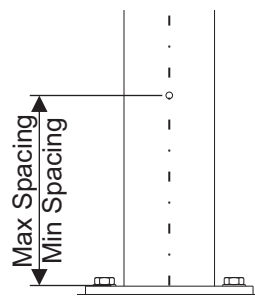
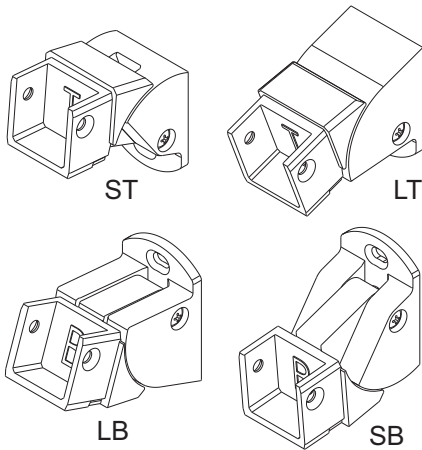
Note: The top edge of the 2 x 4 will be 1/8" below the the bottom rail.

Confirm that this height will pass local building code.



OTP and Proud Post: Locating Top Screw for the Bottom Bracket

- Identify the 4 brackets labeled LT, ST, LB, and SB by the letters stamped on each part.
 - Locate the 2 bottom rail brackets LB and SB.
 - Place each bracket on top of the 2"x 4" and flat against the post.
 - Find the center of the posts and mark the top screw location.
 - After confirming the hole spacing, posts can be attached to the deck surface.
 - **Do not exceed the max height for the top screw location.**
- See the table below.**

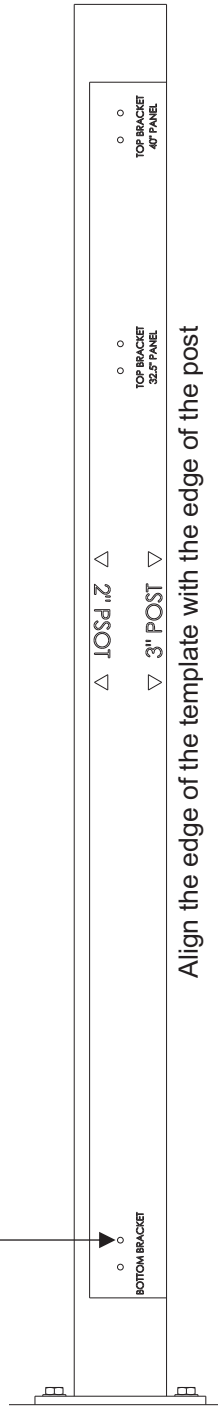


32.5" Panel & 2" or 3" x 51" Post	40" Panel & 2" or 3" x 51" Post	Post Minimum Height
Top Post Max 19-1/4"	Top Post Max 11-3/4"	Top Post Min 4-3/4"
Bottom Post Max 19"	Bottom Post Max 11-1/2"	Bottom Post Min 3-3/4"

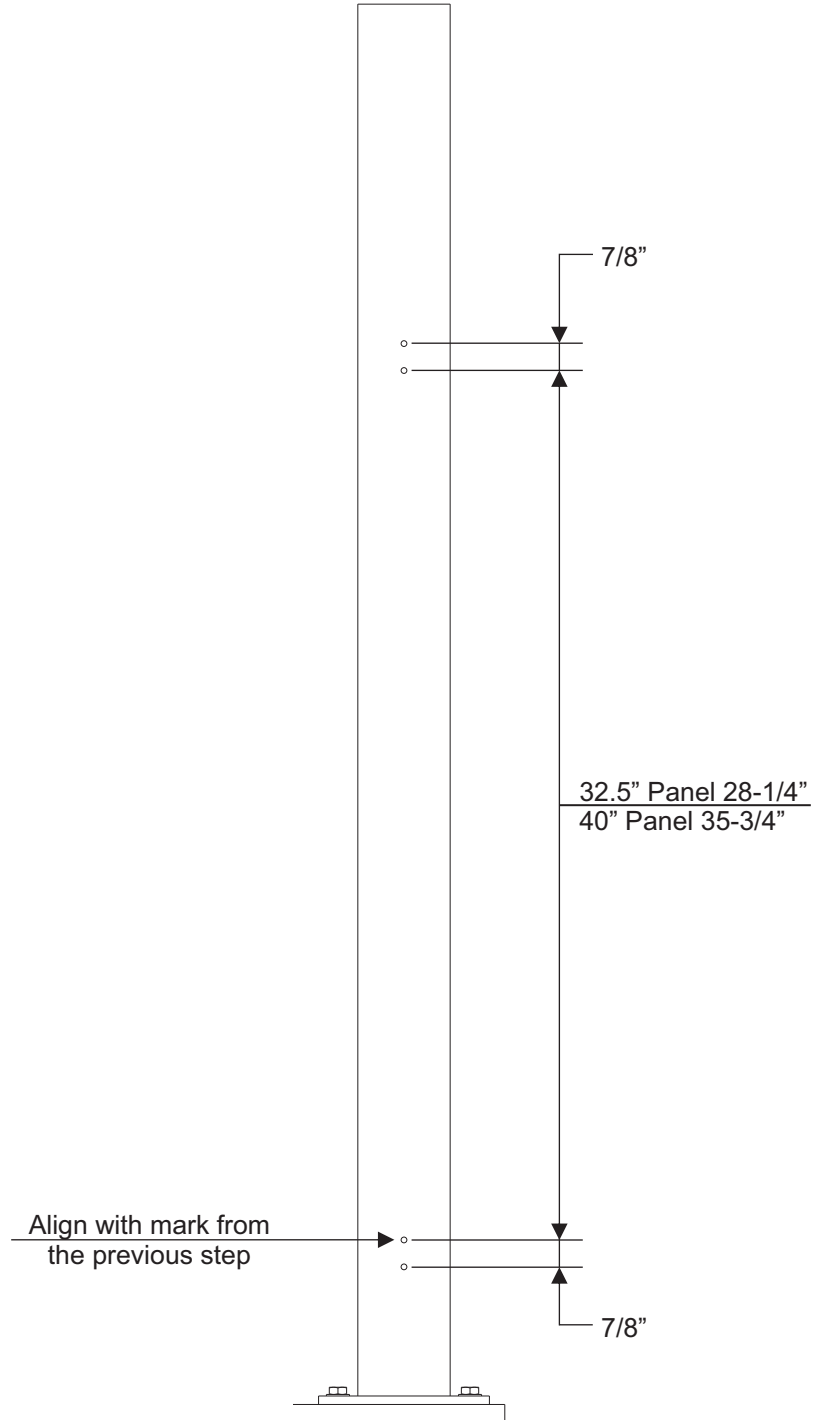
OTP & Proud Post: Bracket Spacing and Template

- Using the template provided with the brackets, align the top hole from the bottom bracket on the template.
- Align the edge of the template to the side of the post.
Note that one side of the template is for a 2" post and other is for a 3" post.
- Mark all the hole locations for the brackets using a center punch. There will be 4 holes total on each post face.
- Alternatively, the hole spacing is $7/8"$ between the bracket holes and $28-1/4"$ for a 32.5" panel and $35-3/4"$ for 40" panels between the holes on the top and bottom rail.

Template

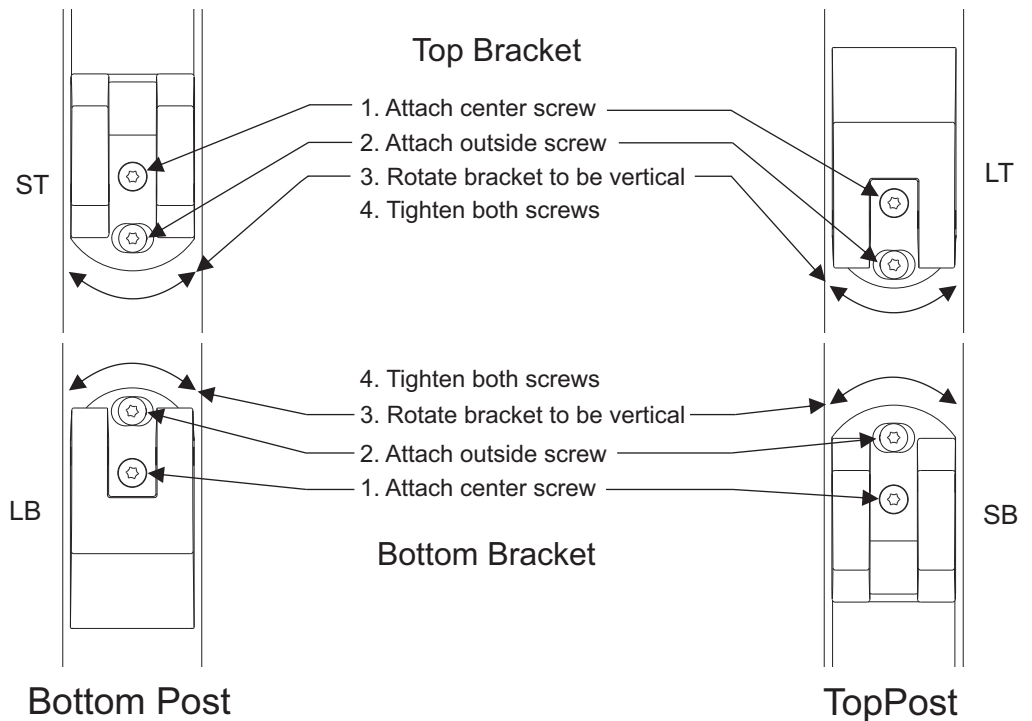
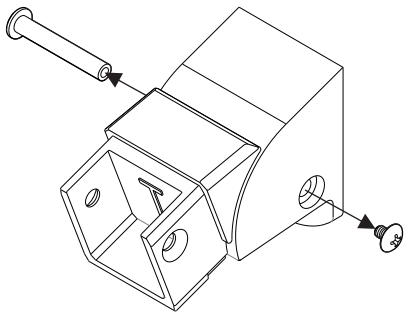
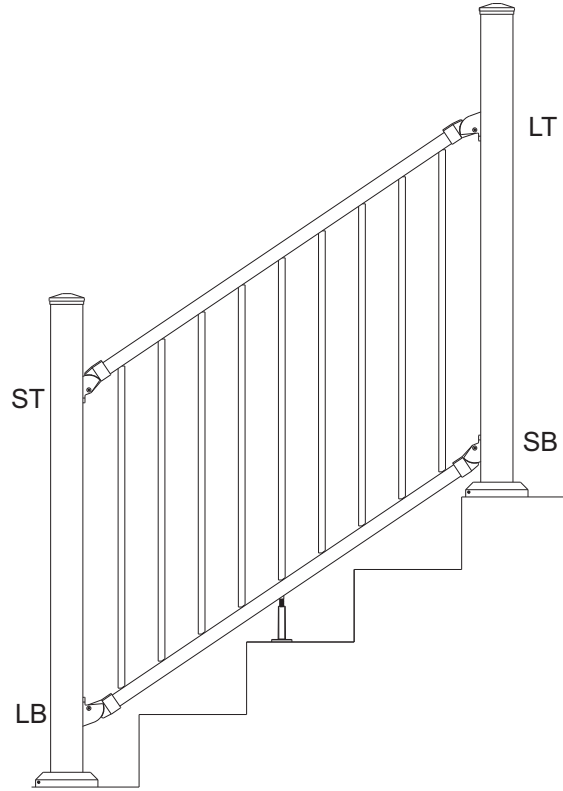
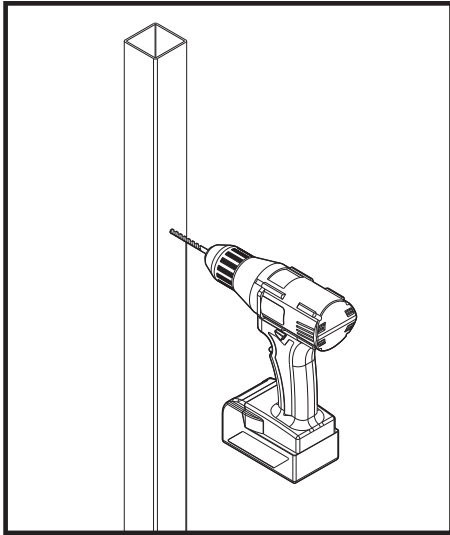


Measuring



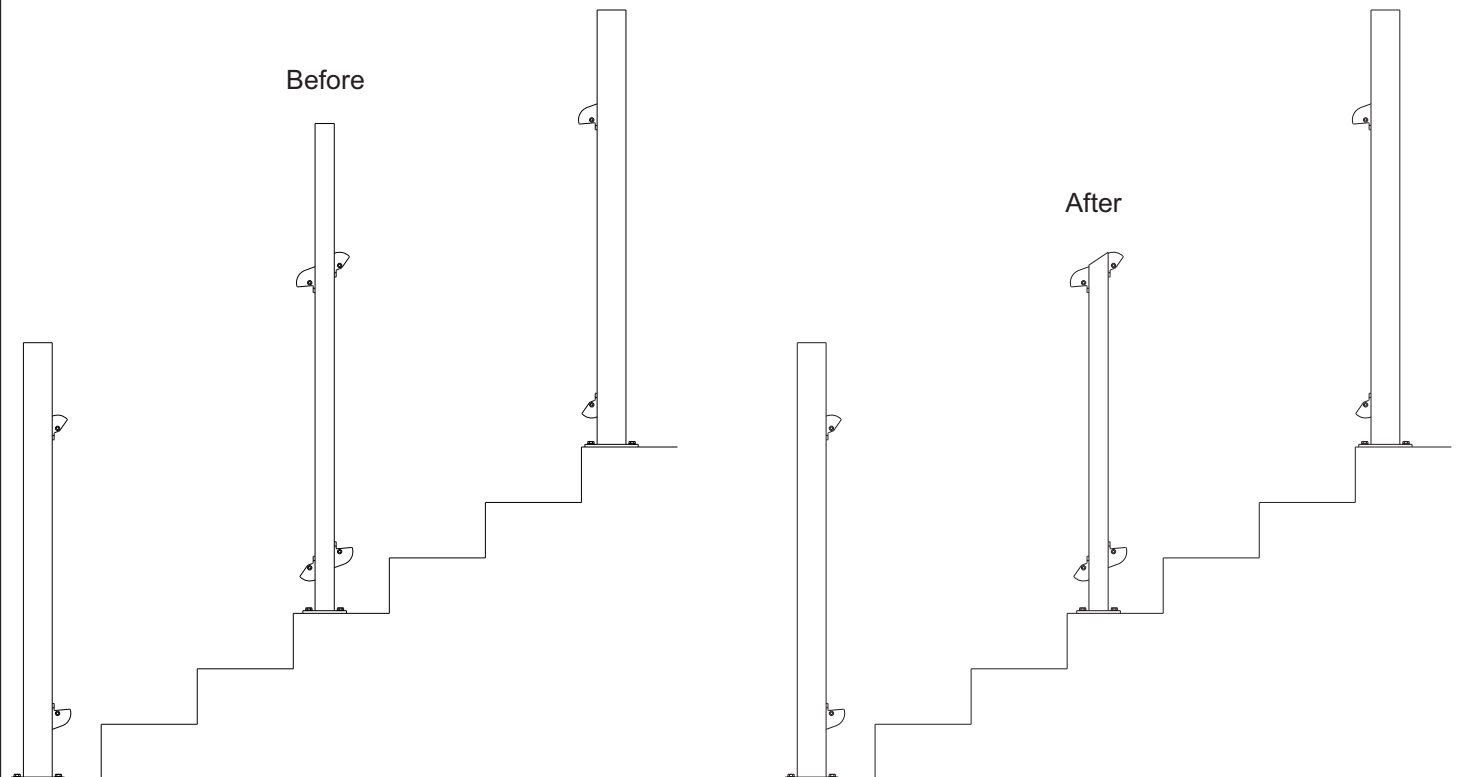
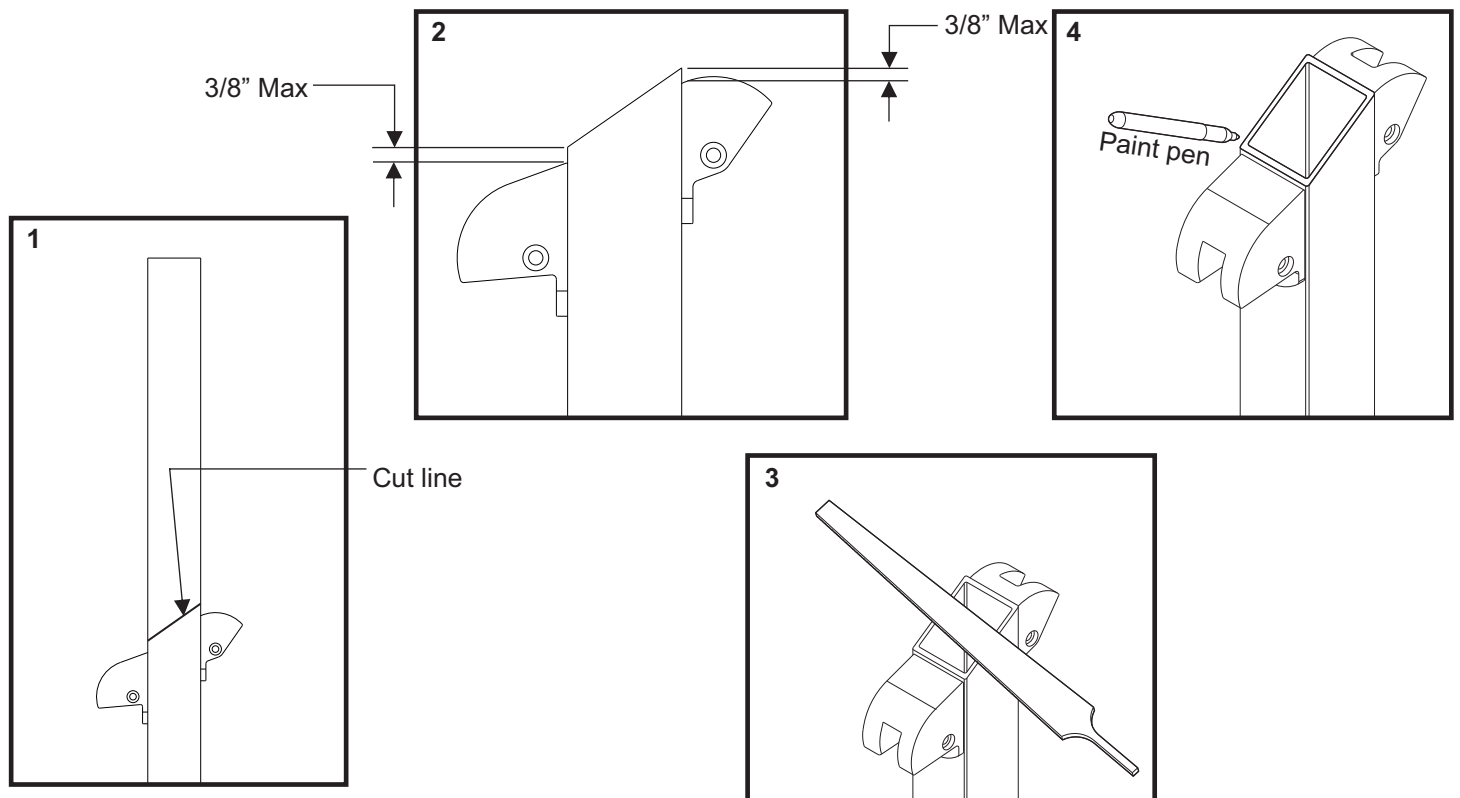
OTP & Proud Post: Bracket Spacing and Template

- Using a 3/16" drill bit, drill a starter hole for the outer two screws.
- Disassemble the brackets by removing the barrel and screw.
- Attach the brackets to the post by center screw (step 1 below) hole first using the provided T-25 screws. **Do not** tighten down until the other screws are installed.
- The outside bracket hole is slotted to allow for movement to make the bracket vertical. The second hole can be drilled out or you can use the drill tip on the screw to start the second screw.
- Check the vertical position of the brackets before tightening down.



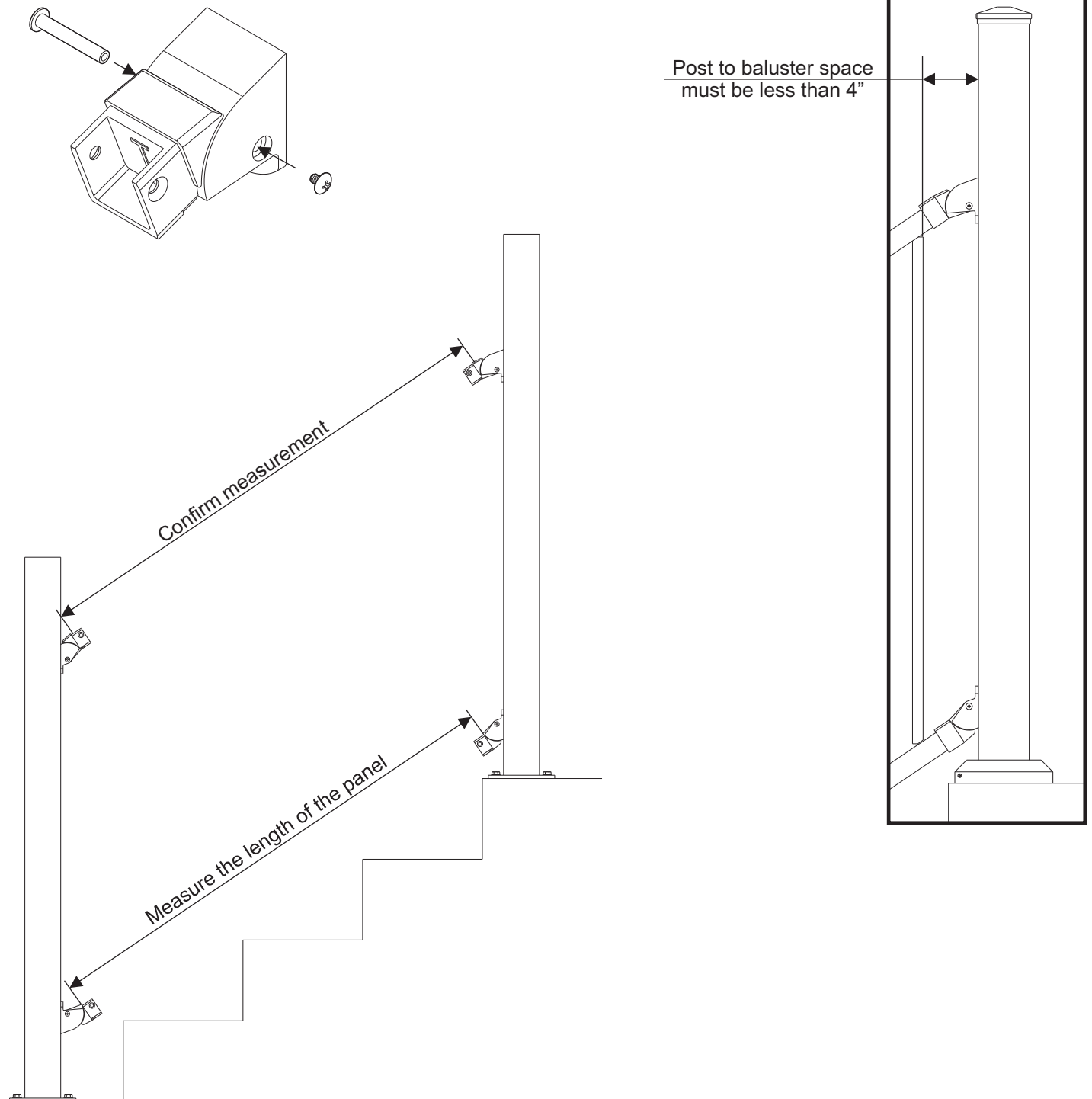
OTP: Cutting 2" Line Post

- After the top brackets have been mounted, the 2" line post will need to be cut down.
- Draw a line above the top brackets. This will be your cut line. This line can be up to 3/8" above the brackets.
- Use a reciprocating saw or portable band saw to cut the post along this line.
- After cutting the post, file the rough edges and paint the exposed surface using Fortress touch-up paint pen.



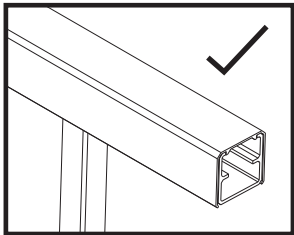
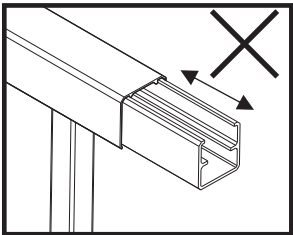
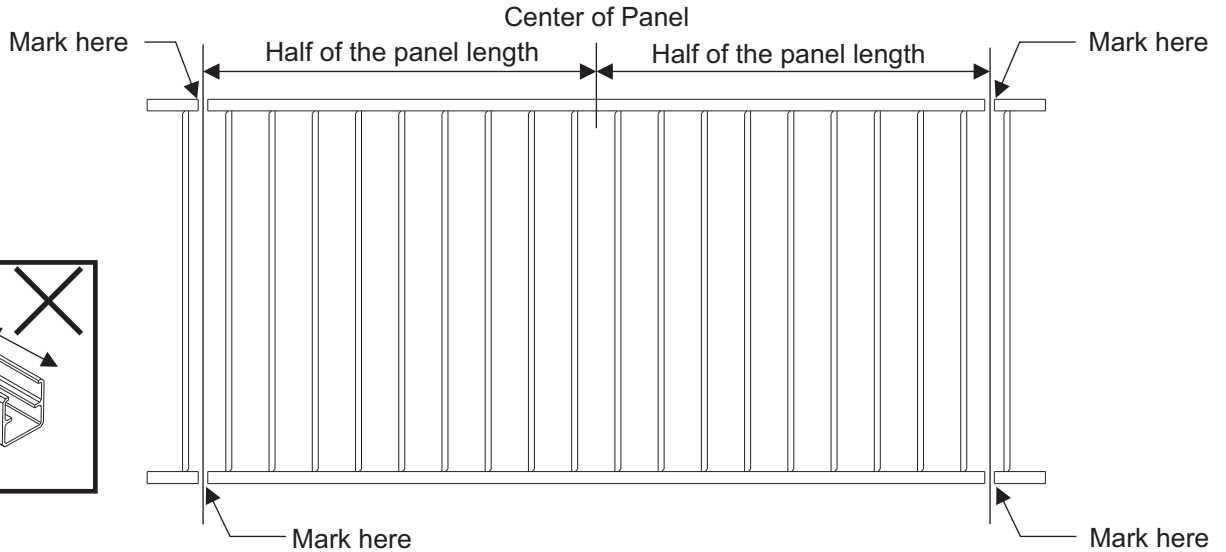
OTP & Proud Post: Measuring the Length of the Panel

- Reassemble the stair brackets.
- Measure the distance from the inside edge of the bottom two brackets.
- Check that the distance is the same between the top brackets. If the measurement is different, use shims to level the posts.
- Transfer this measurement to the panel. See the proper cutting instructions in the next step.

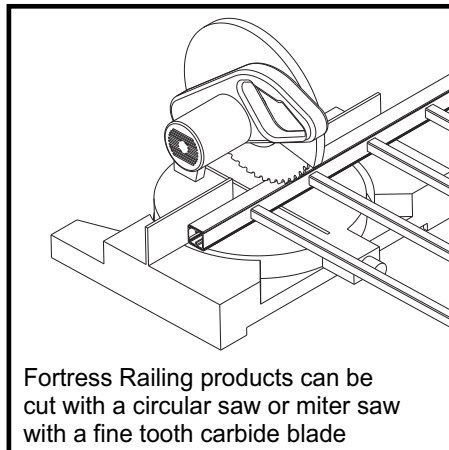


OTP and Proud Post: Cut Down Panel to Correct Length

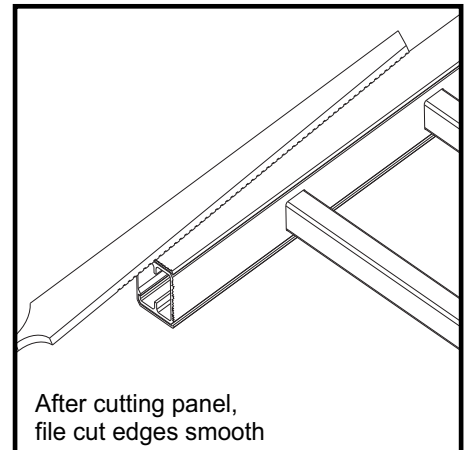
- To insure both ends of the panel look the same, divide the bracket to bracket measurement by 2 to find half of the panel length.
 - From the center of the panel measure out half of the length each direction.
 - Mark these locations with a paint pen or other tool on the top and bottom rails.
- Example: $78 / 2 = 39$. Measure out 39" from the center point in both directions.**



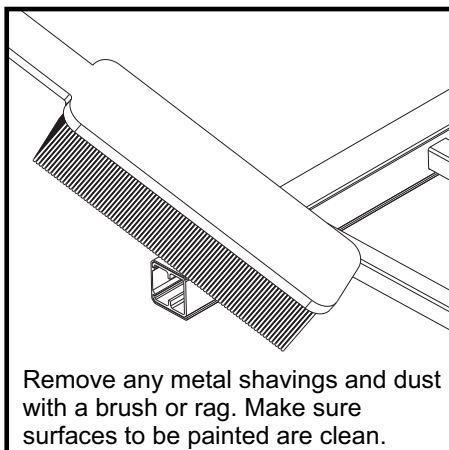
Top rail cover can slide
Make sure the cover lines up with the end of the rail before cutting down the panel



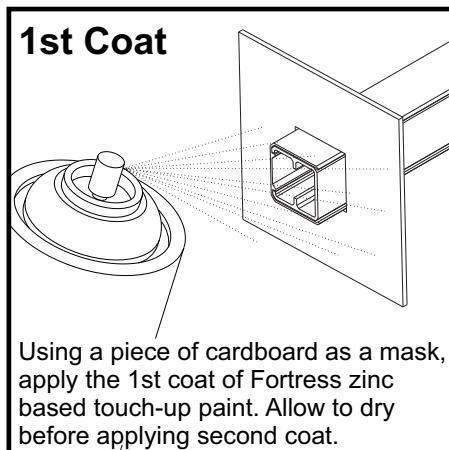
Fortress Railing products can be cut with a circular saw or miter saw with a fine tooth carbide blade



After cutting panel, file cut edges smooth

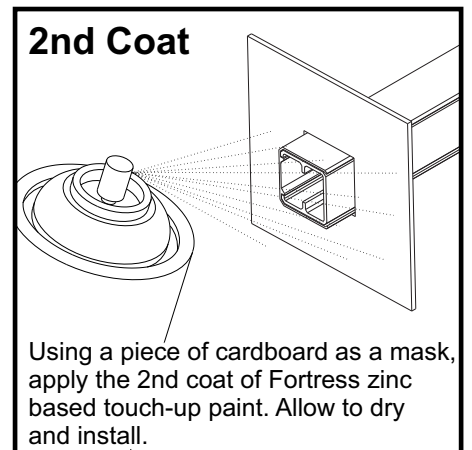


Remove any metal shavings and dust with a brush or rag. Make sure surfaces to be painted are clean.



1st Coat

Using a piece of cardboard as a mask, apply the 1st coat of Fortress zinc based touch-up paint. Allow to dry before applying second coat.

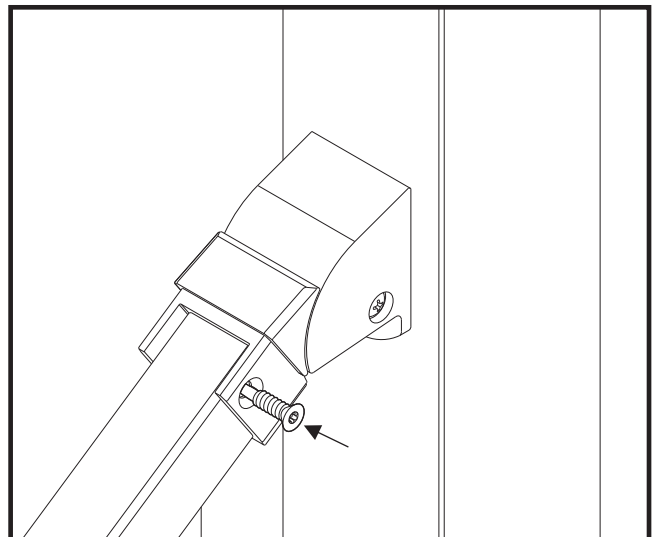
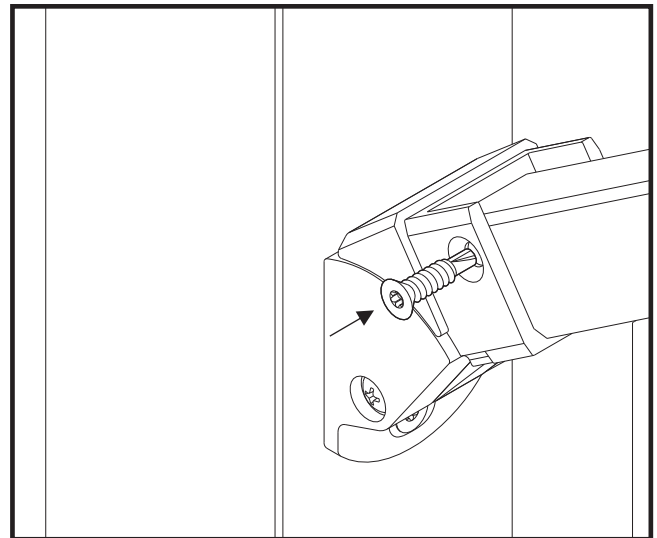
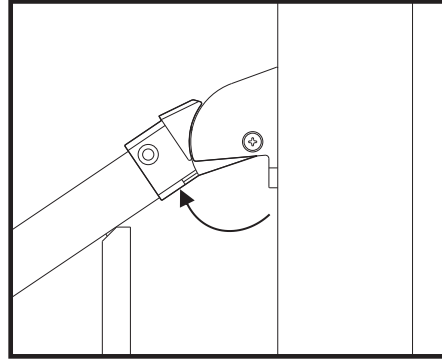
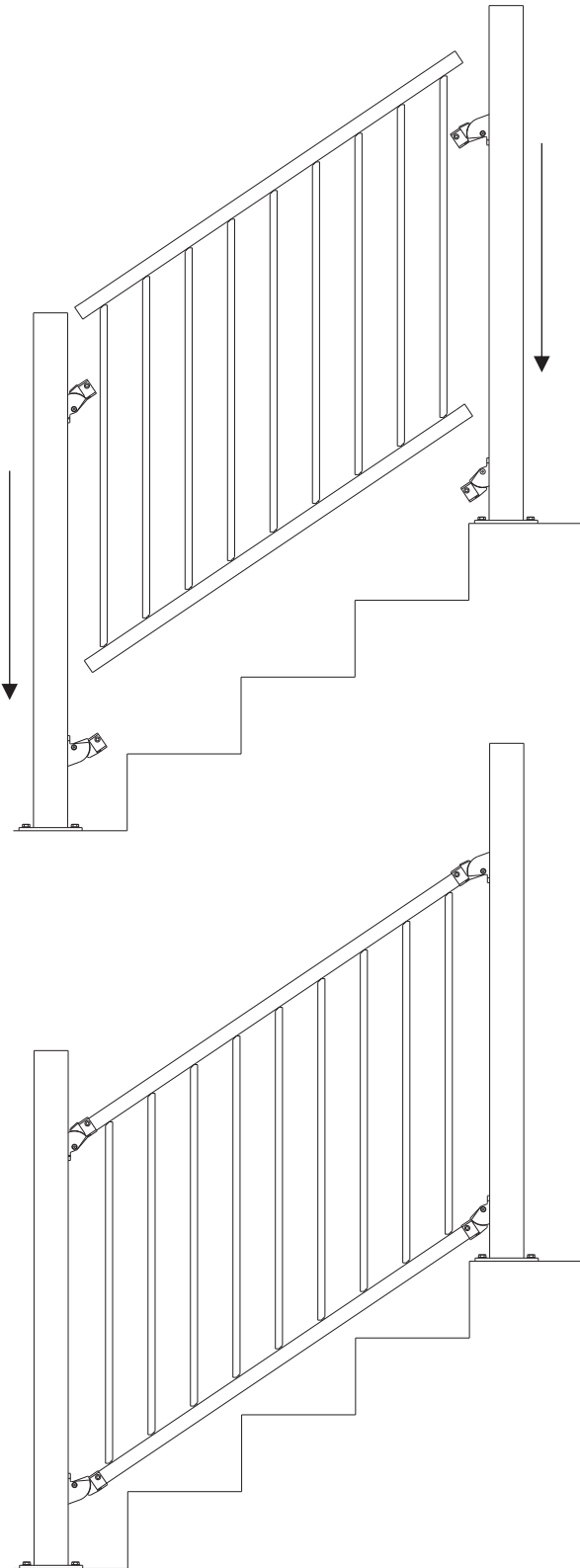


2nd Coat

Using a piece of cardboard as a mask, apply the 2nd coat of Fortress zinc based touch-up paint. Allow to dry and install.

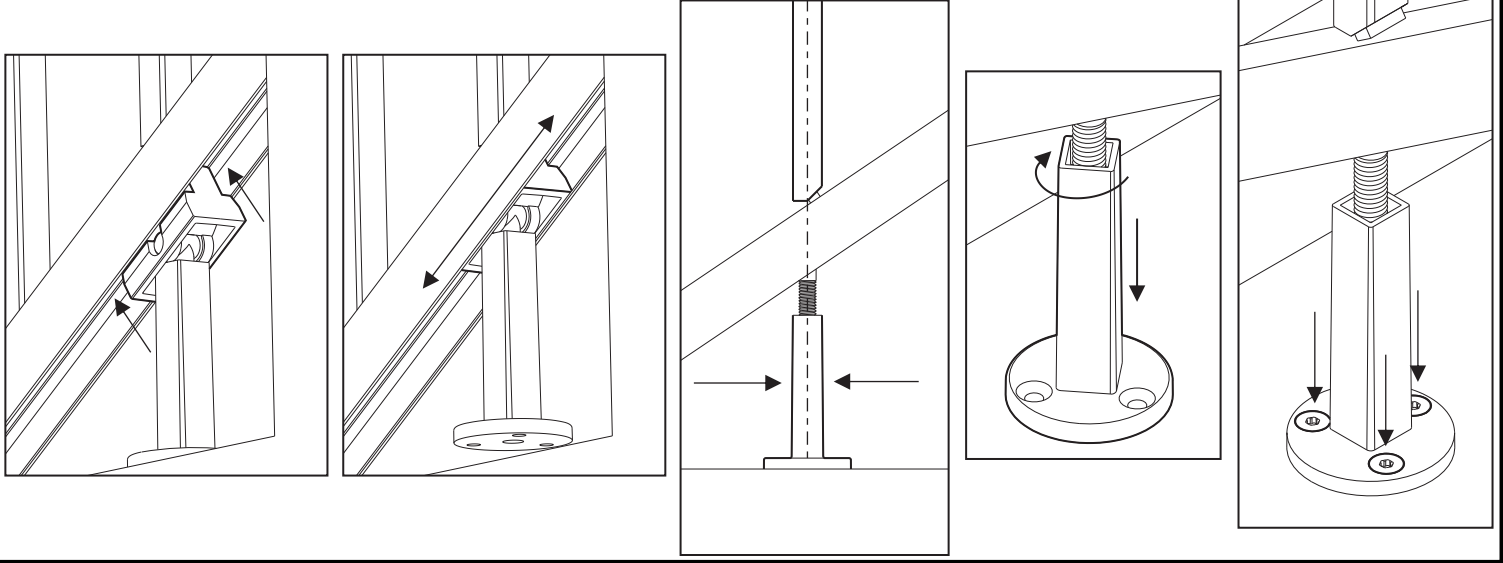
OTP and Proud Post: Installing a Panel

- Rake the panel near to the angle needed to install.
- Drop the panel down into the brackets.
- Push the bracket up so that the bottom is parallel with the rail.
- Attach the panel using the T-25 screw that came with the brackets. Attach the screws on the same side of the panel. Only 1 screw in each corner is required.
- Remove any metal shavings after attaching the panel.



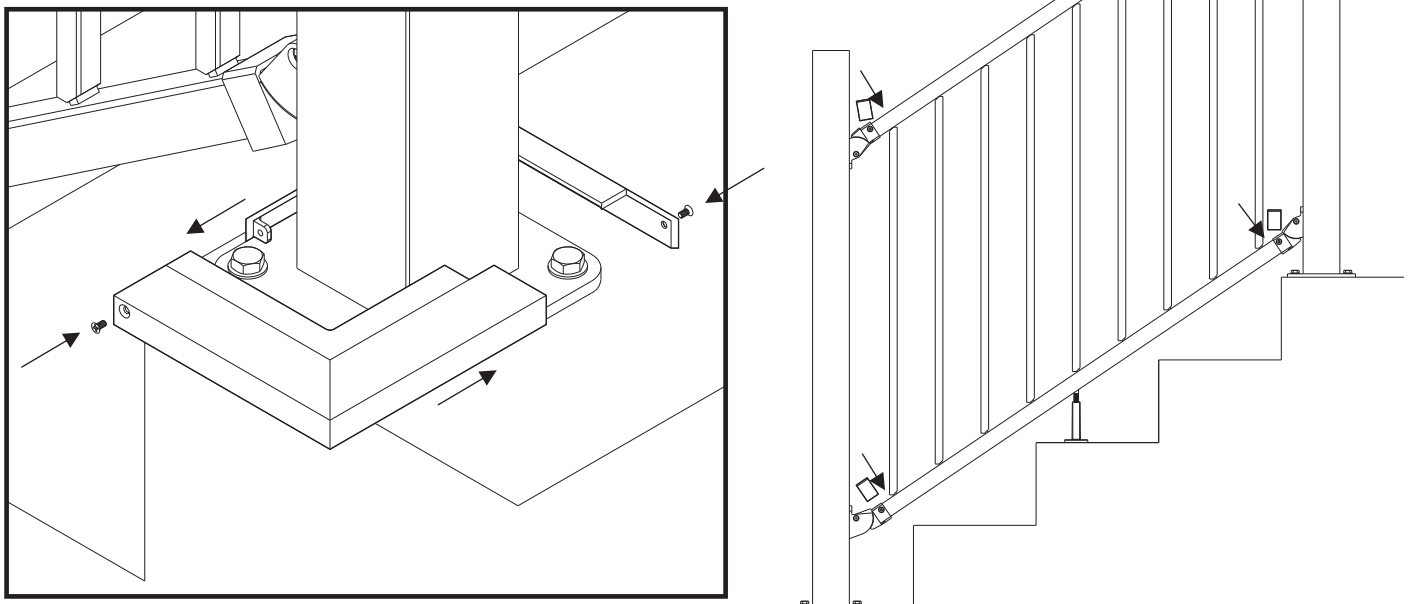
OTP and Proud Post: I-Support Installation

- The I-Support should be located near the center of the panel directly under a baluster.
- The I-Support can rotate to any angle 0° to 40°. The height of the I-Support can change from 3.3" up to 5.7".
- Install the I-Support by snapping the rail insert up into the bottom rail.
- Position the I-Support directly under a baluster.
- Unscrew the base until it reaches the stair surface.
- Attach the I-Support using the 3 provided T-25 wood screws.



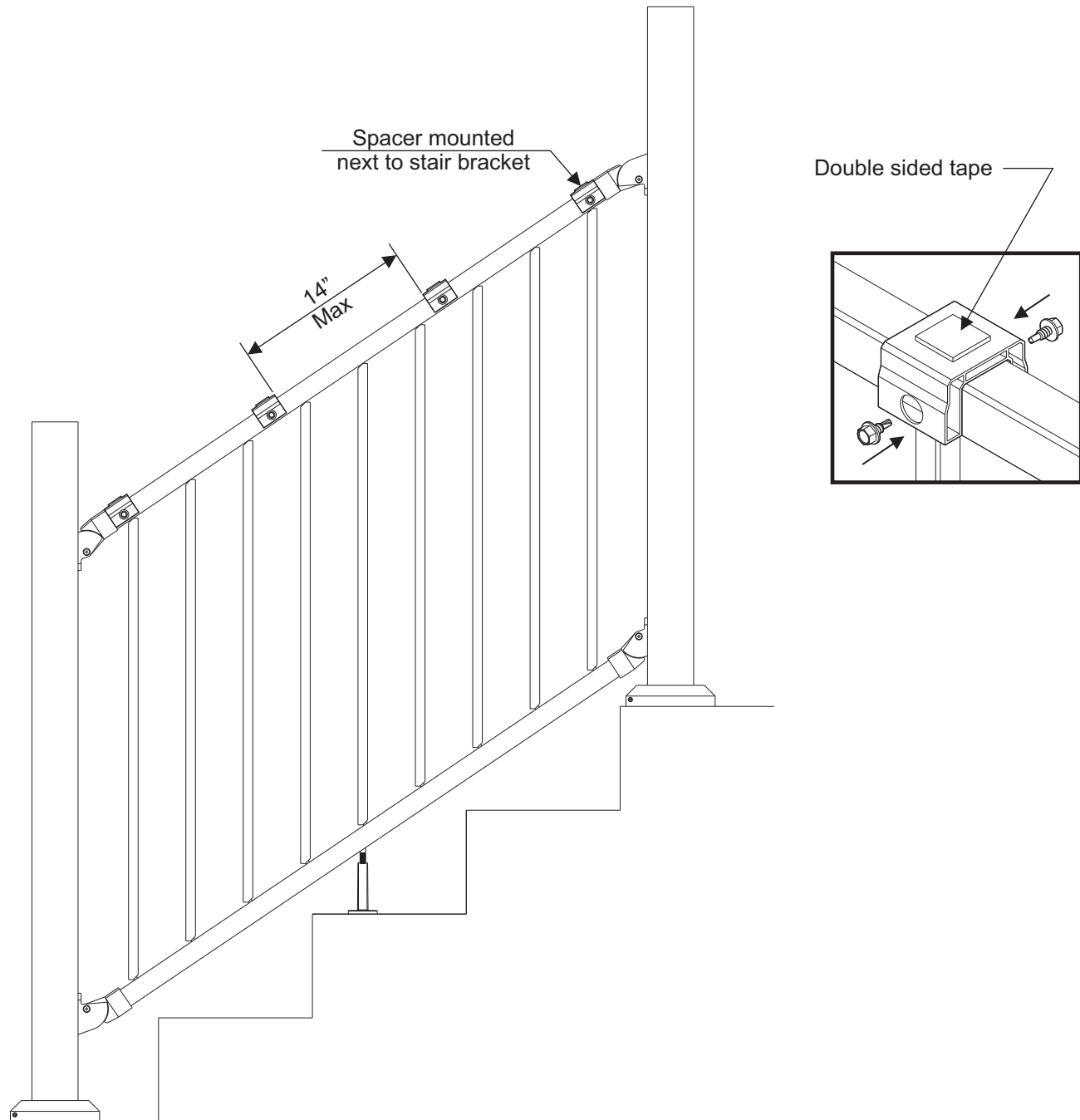
OTP and Proud Post: Installing Bracket Caps and Post Base Covers

- The bracket covers snap down into place.
- Use a rubber mallet, to snap the bracket covers in place.
- Remove all metal shavings from around the post base plate.
- Use a phillips head screw driver to assemble the post base cover.



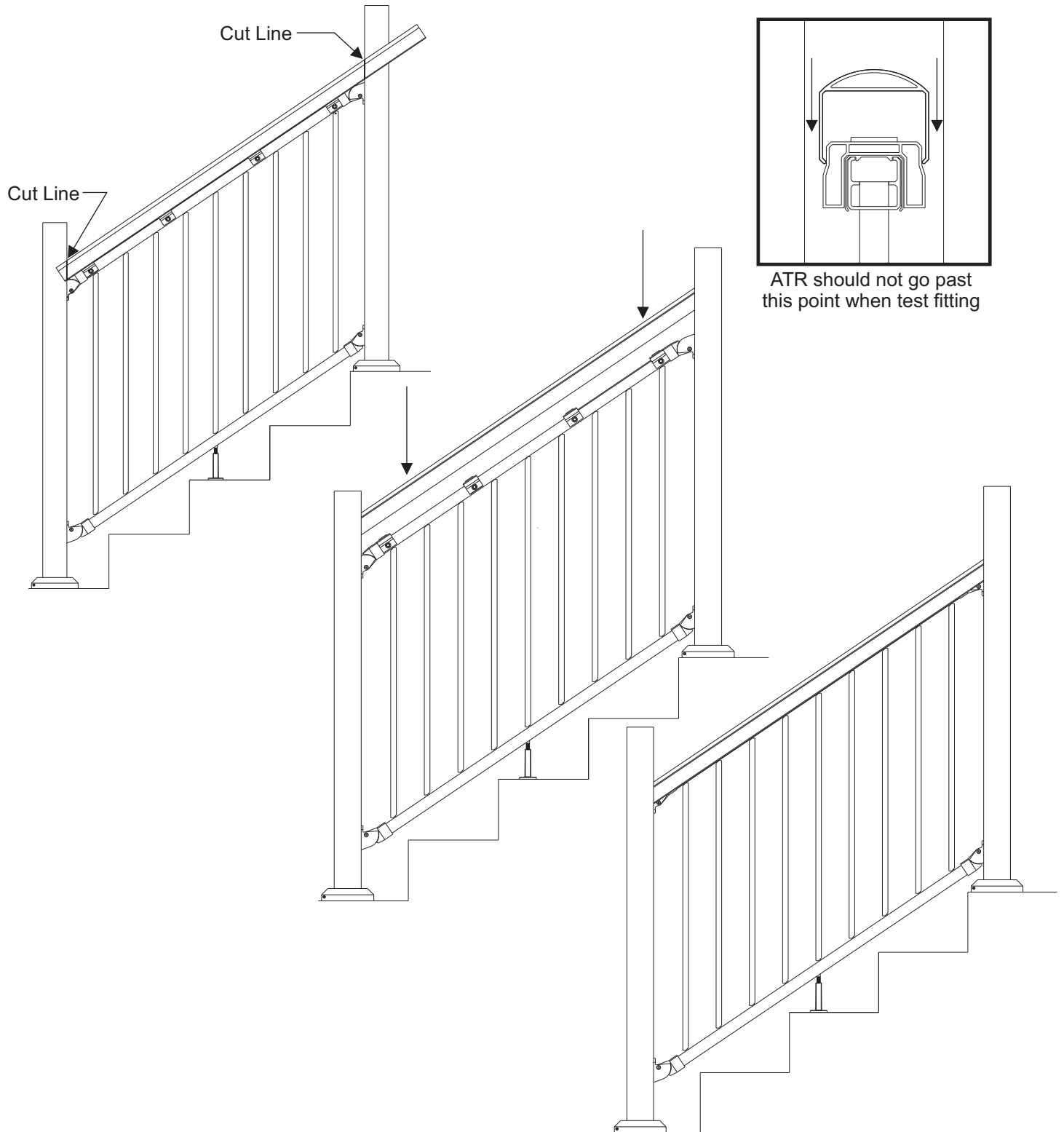
OTP and Proud Post: Accent Top Rail Spacers

- The accent top rail kit comes with 7 spacers.
- The spacers should be equally spaced along the length of the rail, with no more than 14" spacing between them.
- The end spacers should be placed as close to the end brackets as possible.
- Attach spacers using provided self-drilling screws with a 5/16" nut driver. Two screws per spacer.
- **Do not remove backing of double sided tape until you are ready to permanently attach the ATR.**



OTP and Proud Post: Cutting the ATR to length

- Measure the distance from the inside edge of the 2 posts. Measure the angle needed to make the ATR flush with the post.
- Mark the cut lines on the ATR, and cut the ATR to length, file the edges, and paint using the same steps as used for cutting down a panel.
- When test fitting the ATR, place it on top of the spacers. **Do not** press the ATR down over the spacers. Removing the ATR from the spacers can damage the ATR and spacers.
- **If you are installing a OTP Line Post, see the next page before permanently installing the ATR**
- Make sure the inside of the ATR is clean before remove the backing of all of the double-sided tape on the ATR spacers.
- Using force, the ATR snaps down around the ATR spacer.



OTP: Installing the Stair Post Splice

- Test fit the Stair Line Post splice by locating its position above the 2" post and mark the edge locations. Measure the length of the mark to the next post and add .625" (5/8") to the number. This will be your ATR length.
- ATRs must be at least 1.5" apart but cannot exceed 2.75".
- Cut the ATR as mentioned in the previous step.
- It is recommended that the ATR and post splice are test fitted together above the rail before installing.
- Attach the ATRs to the panels first.
- Snap the splice over the ATRs. Once in position, use the supplied self drilling screws (2) to attached the splice to the post.
- Post caps, to be pressed down to secure.
- Use a broom or air compressor to remove debris from railing and deck surface.

