

Installation Instructions for Fortress AI¹³ Traditional Adjustable Panels with Evolve Stair Brackets and AI¹³ 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 Posts must always be secured to the deck framing. Fortress AI¹³ 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. Not following the below steps will result in corrosion at the cut areas:

- 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.
- Be sure to remove any metal shavings from the surface of deck, patio or balcony to prevent corrosion on the surface.

Required Materials

Miter saw with fine tooth blade, Drill, 1/16" and 3/16" Drill Bits, T-25 Torx Driver Bits, Phillip's Head Screwdrivers, Drill Bit Extender, Tape Measure, Wrenches, Speed Square, Center Punch, 3-1/2" Support Blocks, Clamps, Hammer, Pencil and Eye Protection .

Torx Bits Tips

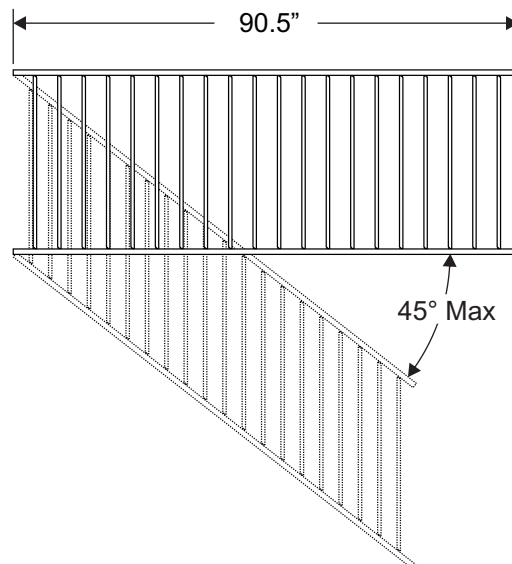
- Have several bits on hand before starting your installation.
- Always pre-drill holes with a 3/16" drill bit.
- Use the lowest possible torque setting on drill. This will help to minimize breakage and twisting of Torx Bits.

AI¹³ Traditional Adjustable Panels

AI¹³ Traditional Adjustable Panel 8' (actual length 90.5")

Available Heights 34" and 40"

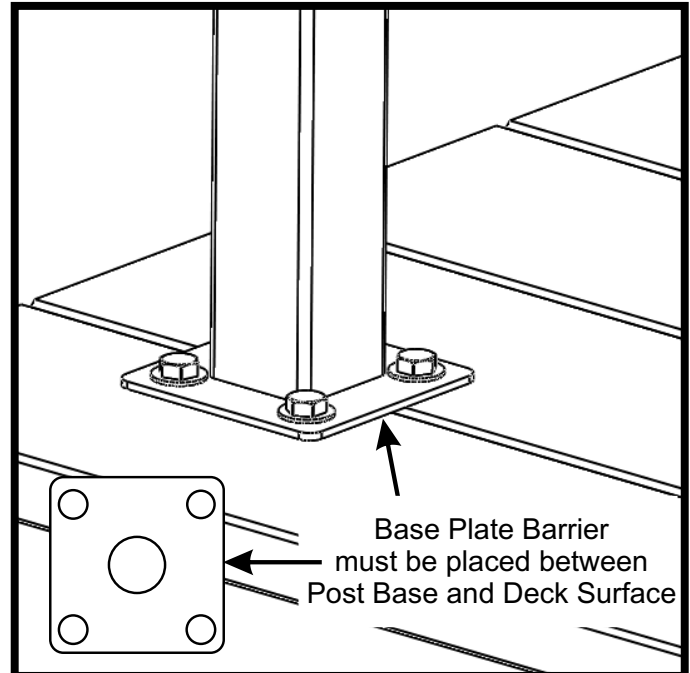
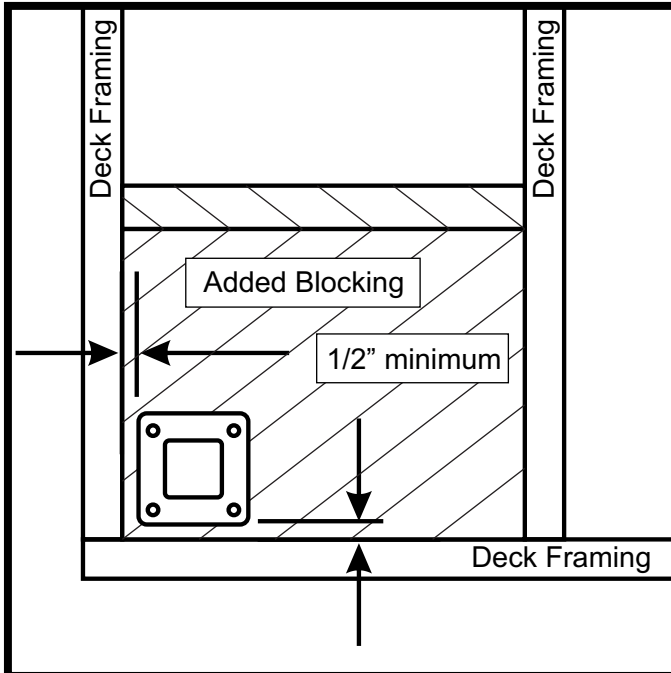
Maximum rake angle 45°



Important - Every stair installation will be different. The rise and run, post position, and post height all need to be carefully laid out before posts are permanently installed and Fortress AI¹³ Traditional Adjustable panels are cut.

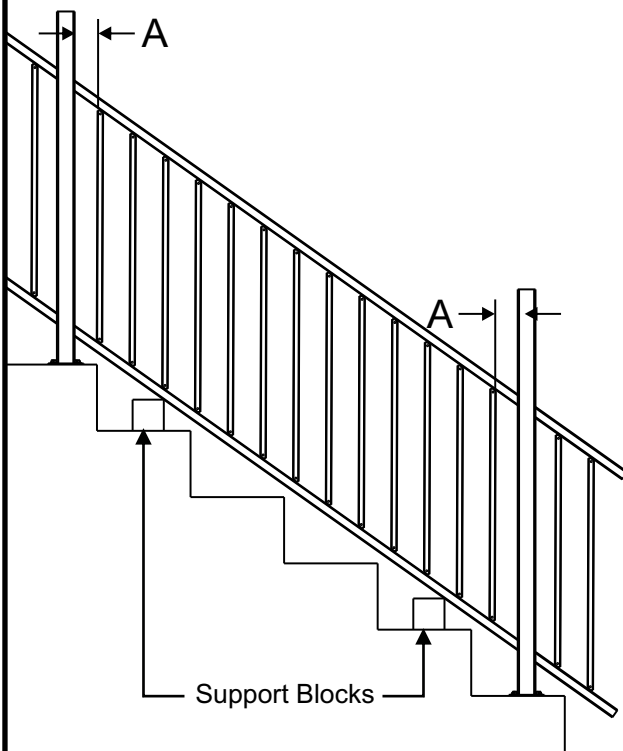
Mount AI¹³ Posts*

- 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 post base plate a minimum of 1/2" from the inside edge of rim joist.
- Place included Base Plate Barrier between post base and deck surface.
- Mount posts at appropriate points based on panel length.
- Attach AI¹³ posts with 3/8 X 3-1/2" Hex Head galvanized bolts.



*Reference Fortress AI¹³ Post mounting instructions

Determine Rake and Center AI¹³ Traditional Adjustable Panel Between AI¹³ Posts



Use AI¹³ Traditional Adjustable Panel to determine the angle of stair installation. To do this, use support blocks resting on the stair tread. Position support blocks so that the position of the bottom rail meets the spacing requirement of your building code.

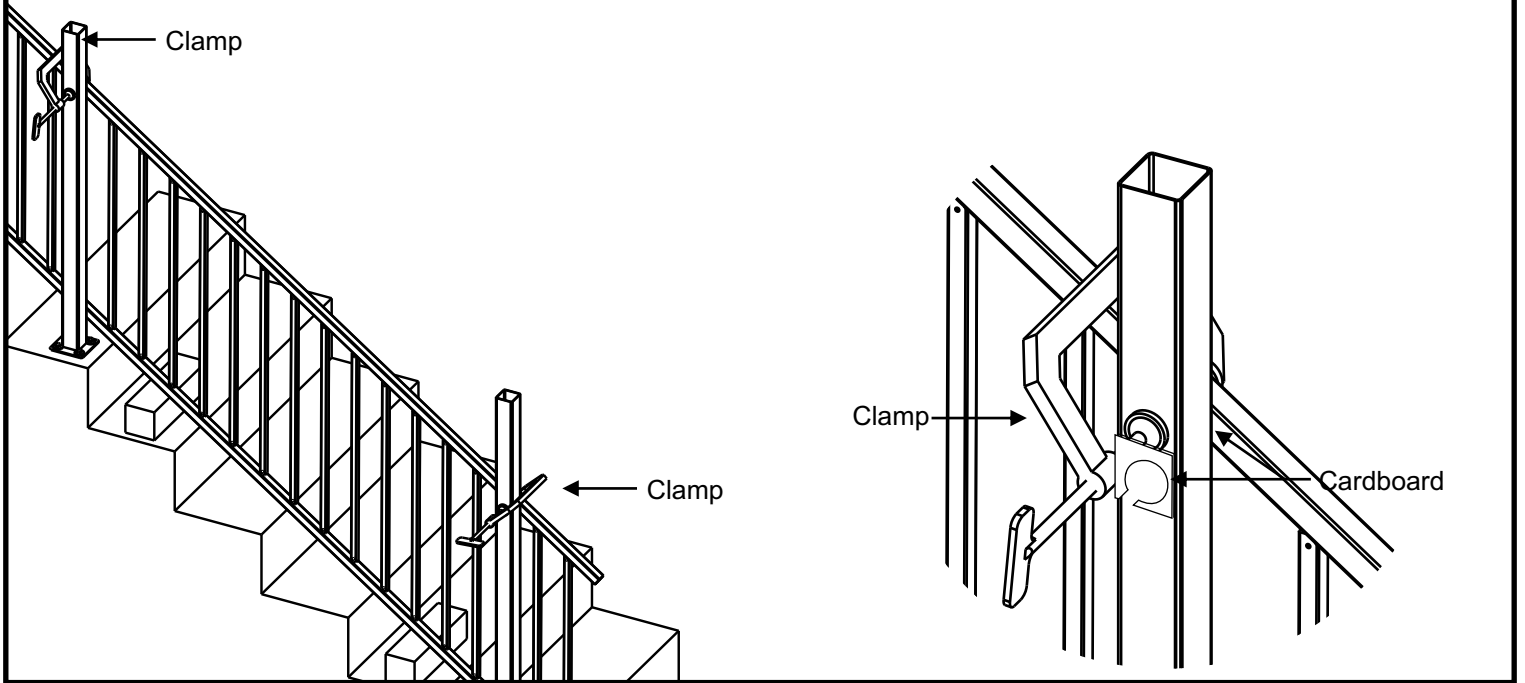
Rake the AI¹³ Traditional Adjustable Panel so that the balusters run parallel with the posts. Center the balusters so that there is an equal amount of rail between the post and baluster at each end (Dimension A).

Make sure that there is a minimum distance of 2-1/2" between the post and first baluster to allow space for the bracket. The maximum allowable distance between the post and the first baluster is 3-15/16".

Mark location of support blocks on steps. Support Blocks will be used in a later step.

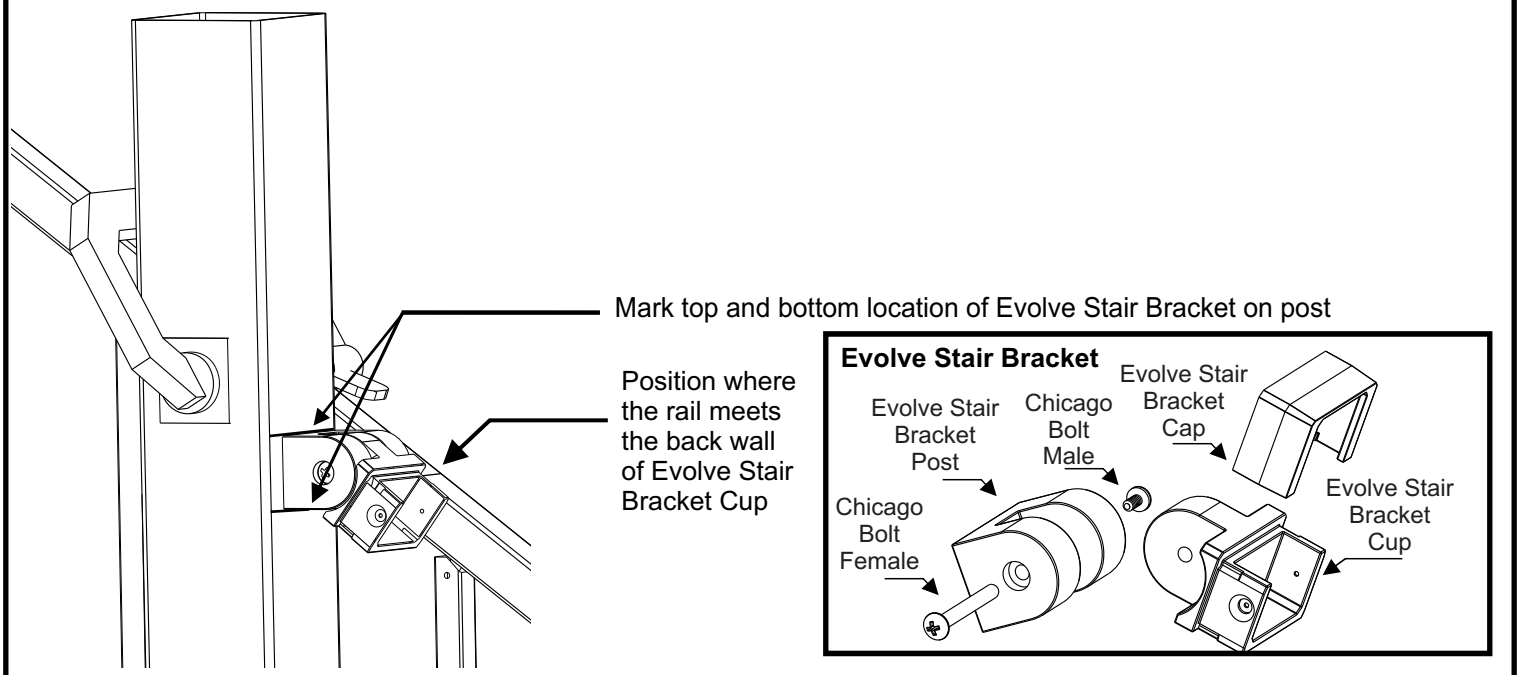
Verify AI¹³ Traditional Adjustable Panel Position and Secure with Clamps

- Verify the position of the AI¹³ Traditional Adjustable Panel. With the help of another person, secure the AI¹³ Traditional Adjustable Panel into the correct position and secure with clamps to AI¹³ Post.
- Place a piece of cardboard between the clamping surfaces and the surfaces of the rails and posts to protect the finish.



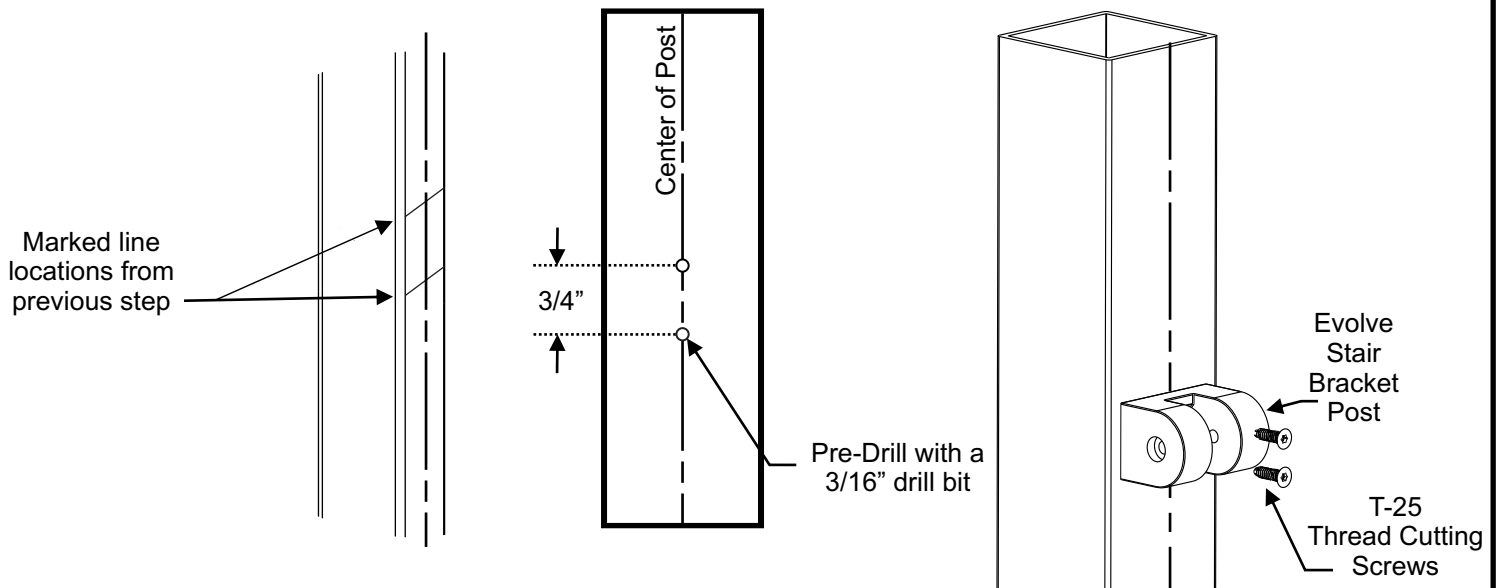
Determine Evolve Stair Bracket Assembly Location and Mark Rail

- **Do not install the Evolve Stair Bracket Cap at this time.**
- Place the Evolve Stair Bracket Assembly against the AI¹³ Post and position the Evolve Stair Bracket Cup so that it is parallel to the rail. With a pencil mark the position on the top of the rail where the rail meets the back wall of the Evolve Stair Bracket Cup. With the Evolve Stair Bracket in the same position, mark a horizontal line on the post right above and below the Evolve Stair Bracket.
- Repeat this step for all four Evolve Stair Bracket locations. In the next step, the Evolve Stair Bracket Assembly will be disassembled and placed between these lines so that hole locations can be marked and drilled.



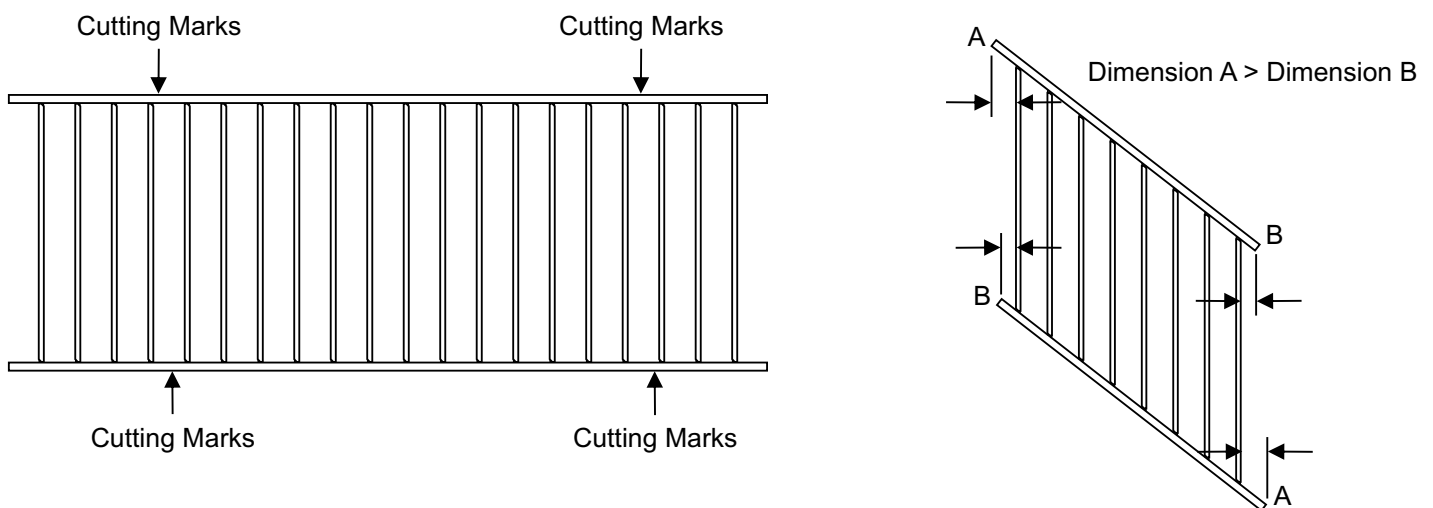
Pre-Drill and Install Evolve Stair Brackets to Al¹³ Posts

- Remove clamps and Al¹³ Traditional Adjustable Panel.
- Mark the centerline of each post. The Evolve Stair Brackets will be installed on the centerline.
- Remove Chicago Bolt from the Evolve Stair Bracket Assembly.
- Place the Evolve Stair Bracket Post piece between the two lines drawn in the previous step and center it on the post.
- Use a 3/16" drill bit to pre-drill holes.
- Attach all Evolve Stair Bracket Post pieces to the posts with supplied T-25 thread cutting screws.
- Reinstall Evolve Stair Bracket Cup to Evolve Stair Bracket Post with Chicago Bolts
- **Remove all metal shavings from deck, post base cover, post, and panel before bracket is screwed to post.**



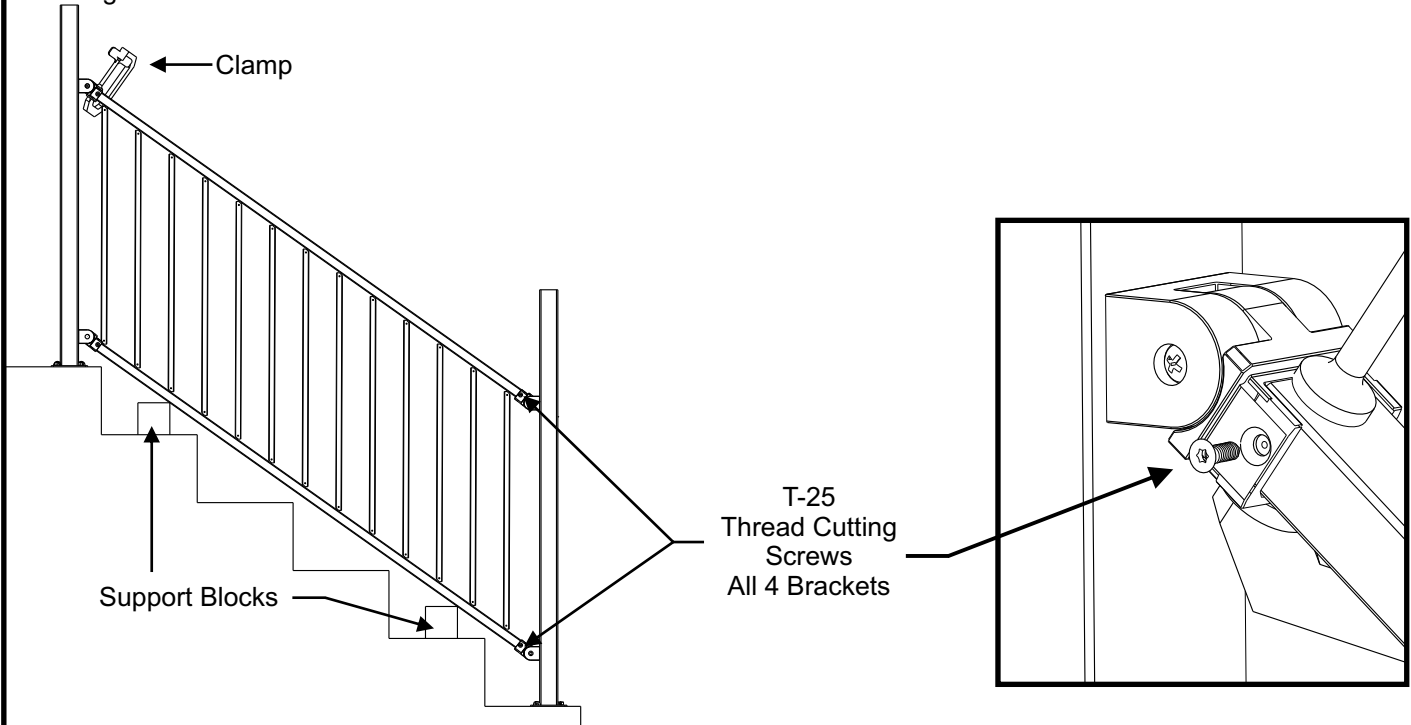
Cutting Fortress Al¹³ Railing Traditional Adjustable Panels

- Rake the panel back to 90° and lay on a flat surface.
- Using a metal cutting blade, cut the rail at the four cutting mark locations from previous step. It is advisable to make a practice cut on a scrap piece of rail before proceeding with the finish cuts.
- **The distances from the first baluster to the ends of the rail will be different from the top to bottom rail. The greater the angle of the steps, the more visible the difference will be. This is required in order to keep panel's balusters parallel to the post.**
- File all cut edges.



Install AI¹³ Traditional Adjustable Panel

- Reposition support blocks.
- Position AI¹³ Traditional Adjustable Panel so that it aligns with the Evolve Stair Brackets. Use a clamp to hold the AI¹³ Traditional Adjustable Panel in place.
- Check the fit of the AI¹³ Traditional Adjustable Panel and make any required adjustments.
- Pre-drill AI¹³ Traditional Adjustable Panel with a 3/16" drill bit, then secure to Evolve Stair Bracket with a T-25 thread cutting screw.



Install Evolve Stair Bracket Caps

- Remove clamps, then install Evolve Stair Bracket Caps by snapping the Evolve Stair Bracket Cap into place.

