

Installation Instructions for Fortress Al¹³ Traditional Railing Panels with Evolve External Brackets and Al¹³ 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. The Fortress Company or its distributors shall not be held liable for improper or unsafe installations.

Fortress Al¹³ Posts must always be secured to the deck framing. Fortress Al¹³ 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.

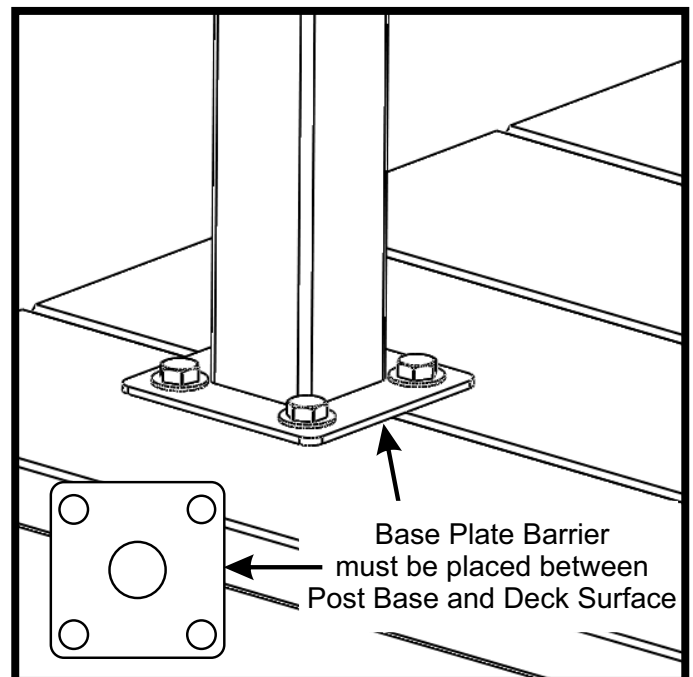
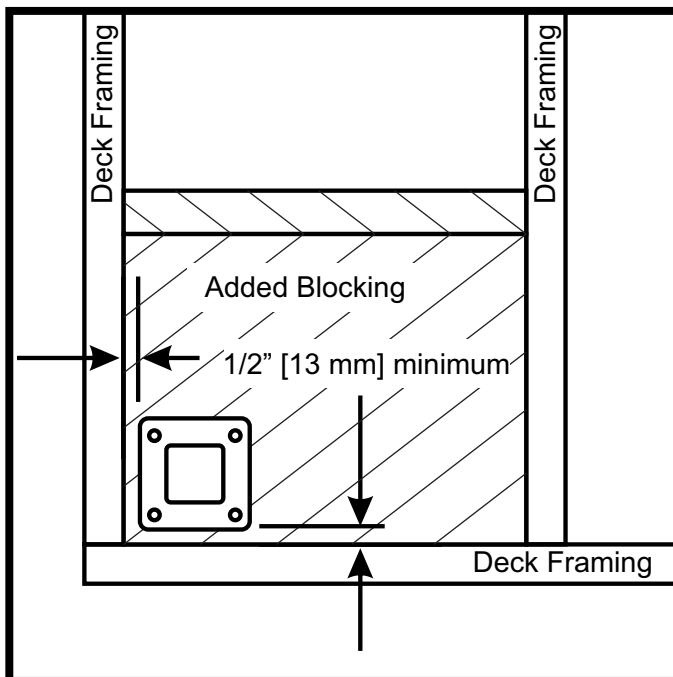
- Remove all metal shavings from the cut area.
- File any sharp edges left by cutting. Thoroughly wipe and remove any filings, grime or dirt from the railing.
- Be sure to remove any metal shavings from the surface of deck, patio or balcony to prevent stains on the deck surface.

Required Materials

Miter saw with fine tooth blade, Drill, Drill Bits, T-25 Driver Bit, Drill Bit Extender, Tape Measure, Wrenches, Speed Square, Center Punch, 3-1/2" [89 mm] Support Blocks, Hammer and Personal Safety Equipment.

Mount Al¹³ Posts*

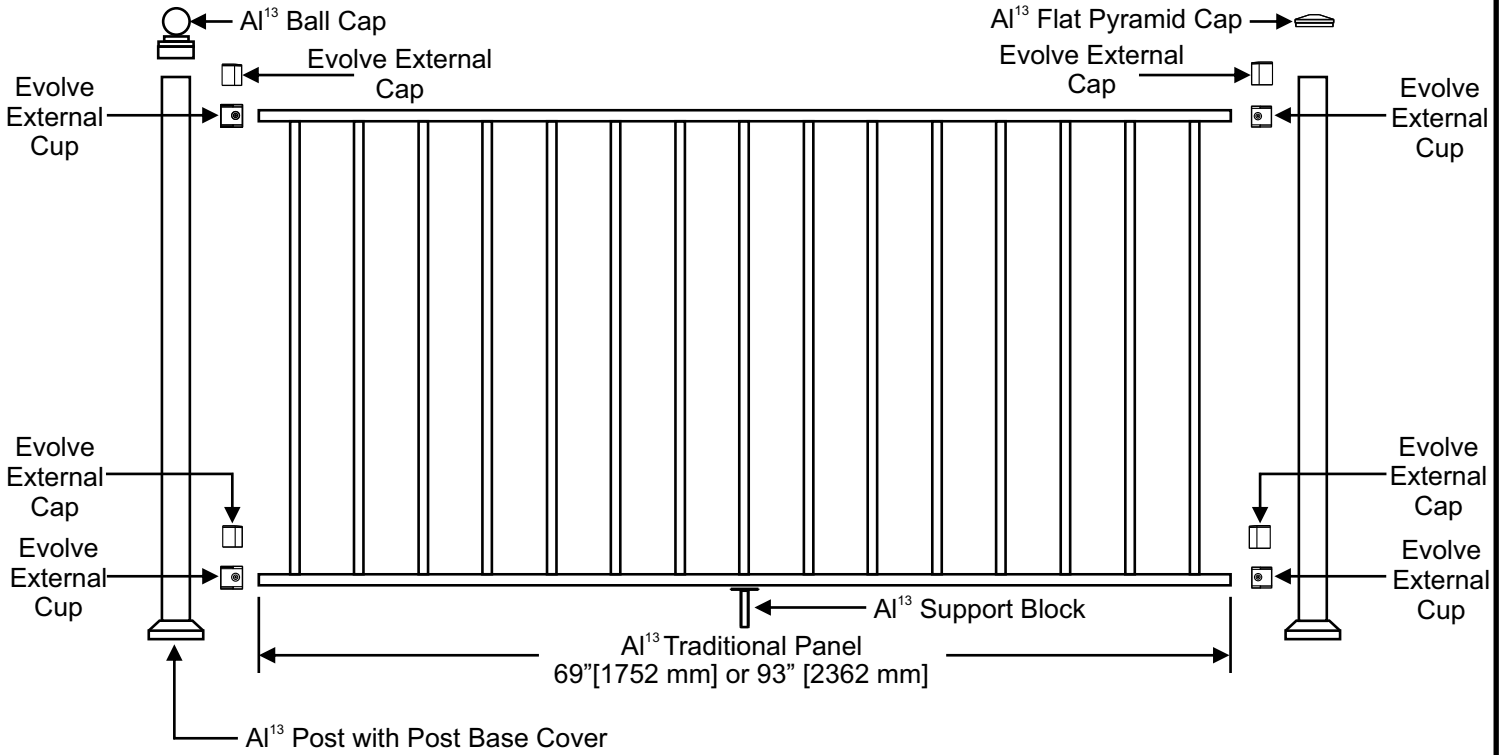
- Wood Blocking tied to deck frame must be installed and constructed with treated dimensional lumber with a minimum thickness of 1-1/2" [38 mm].
- Al¹³ 3" [76 mm] Post Spacing must not exceed 96" [2438 mm] for 8' [2.44 m] Panels and 72" [1829 mm] for 6' [1.83 m] Panels.
- Position the edge of post base plate a minimum of 1/2" [13 mm] 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 Al¹³ Posts with 3/8" [10 mm] X 3-1/2" [89 mm] hex head galvanized bolts.



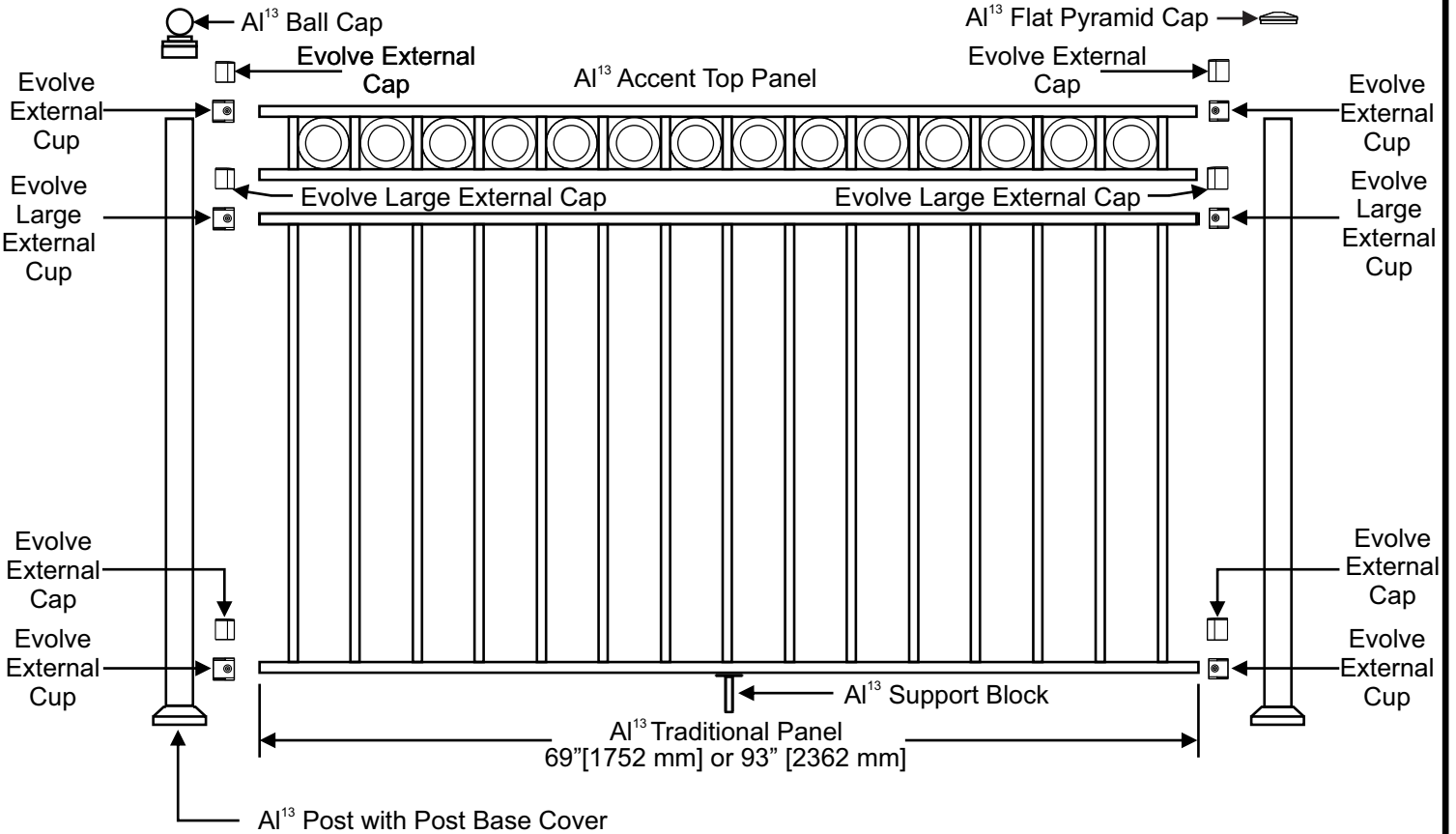
*Reference Fortress Al¹³ Post mounting instructions

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Al¹³ Traditional Panel Installation Options

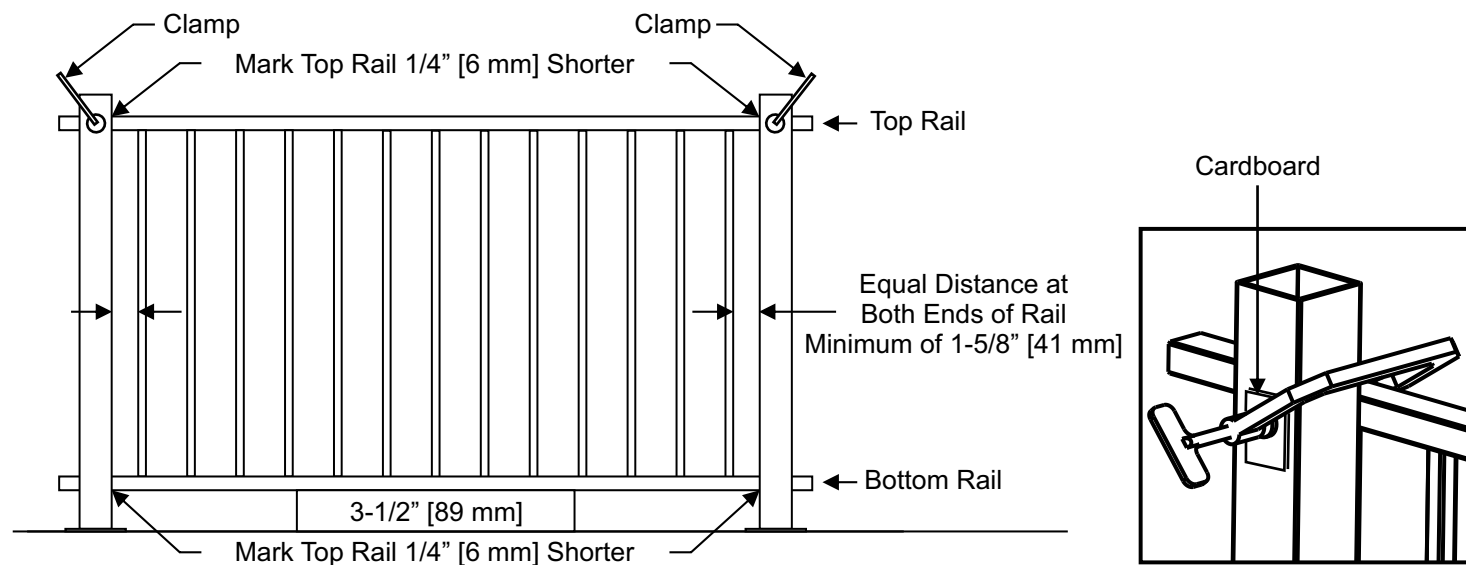


Al¹³ Traditional Panel with Al¹³ Accent Top Panel Installation Options



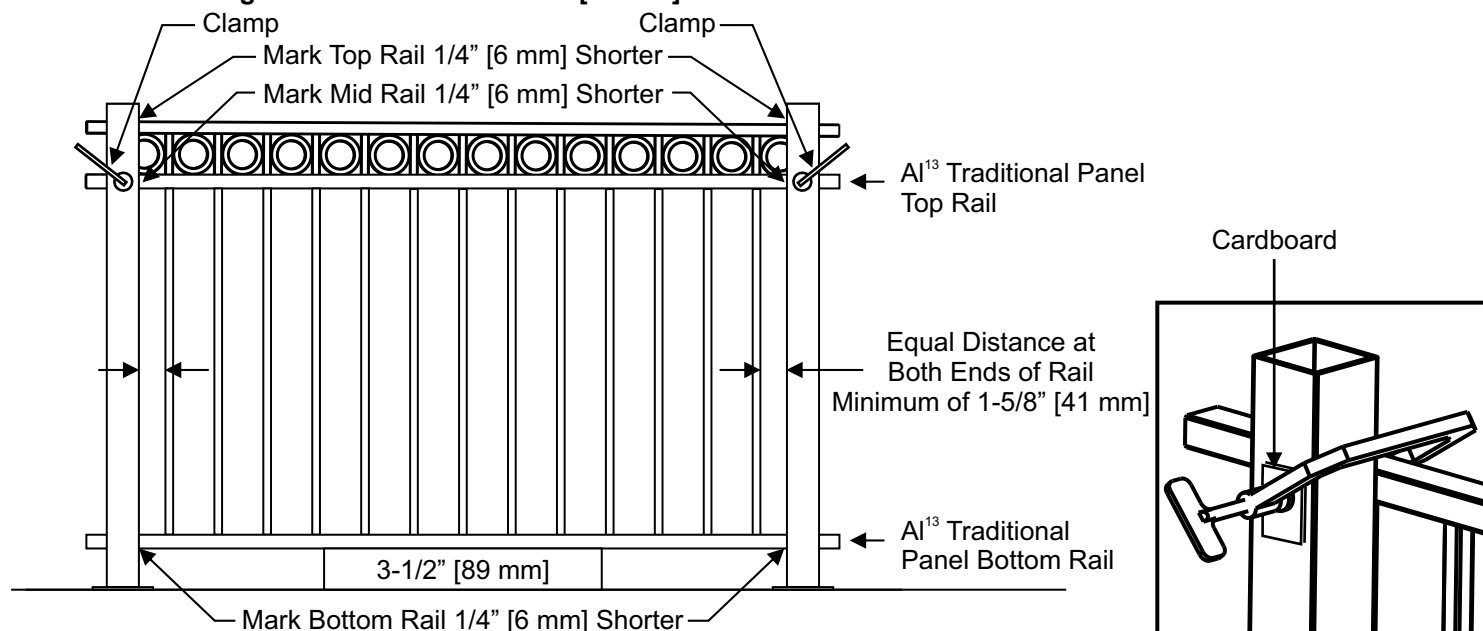
AI¹³ Traditional Panel Installation with Evolve External Bracket

- If installing AI¹³ Traditional Panel with an AI¹³ Accent Top Panel (ATP), disregard this box and proceed to next installation step.
- Check AI¹³ Posts to ensure that all AI¹³ Posts are square and straight.
- Support AI¹³ Traditional Panel on 3-1/2" [89 mm] support blocks.
- Center AI¹³ Traditional Panel between the AI¹³ Posts so that there is an equal distance between the last baluster and AI¹³ Posts at each end.
- **Minimum distance between the last baluster and post is 1-5/8" [41 mm].**
- Clamp Rail to Post at each end to prevent movement. **Place a piece of cardboard between clamp and AI¹³ Post & Panel**
- Mark the rails 1/4" [6 mm] from the edge of the posts.
- The final rail length when cut must be 1/2" [12 mm] shorter to allow for Evolve Bracket clearance.



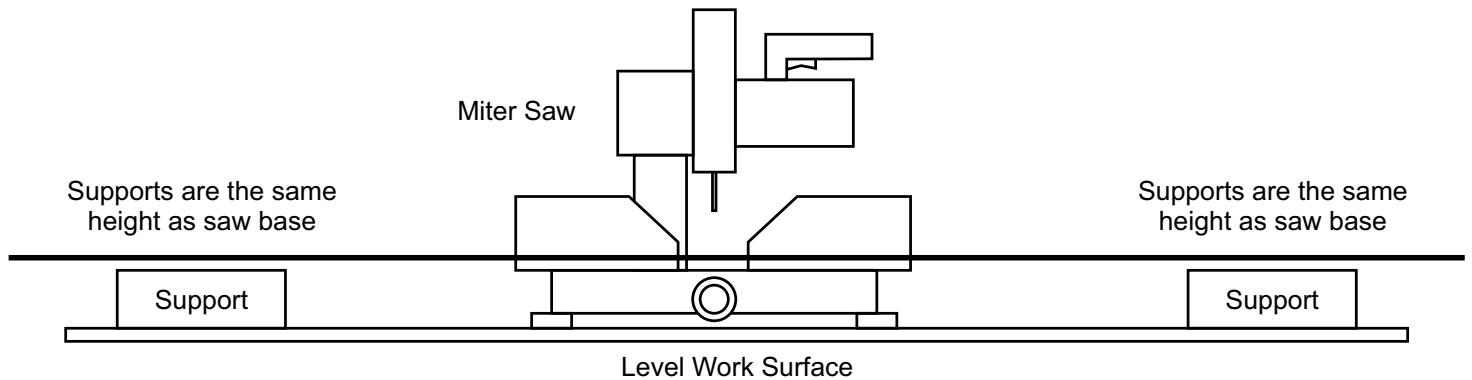
AI¹³ Traditional Panel with AI¹³ Accent Top Panel Installation with Evolve External & Evolve External Large Brackets

- Check posts to ensure that all posts are square and straight. Shim posts as required.
- Support AI¹³ Traditional Panel on 3-1/2" [89 mm] support blocks.
- Center AI¹³ Traditional Panel between the post so that there is an equal distance between the last baluster and post at each end.
- **Minimum distance between the last baluster and post is 1-5/8" [41 mm].**
- Clamp Rail to Post at each end to prevent movement. **Place a piece of cardboard between clamp and AI¹³ Post & Panel.**
- Mark the bottom rail of the AI¹³ Traditional Panel and the top rail of the AI¹³ Accent Top Panel 1/4" [6 mm] from the edge of the posts.
- **The final rail length when cut must be 1/2" [12 mm] shorter to allow for Evolve External Bracket clearance.**



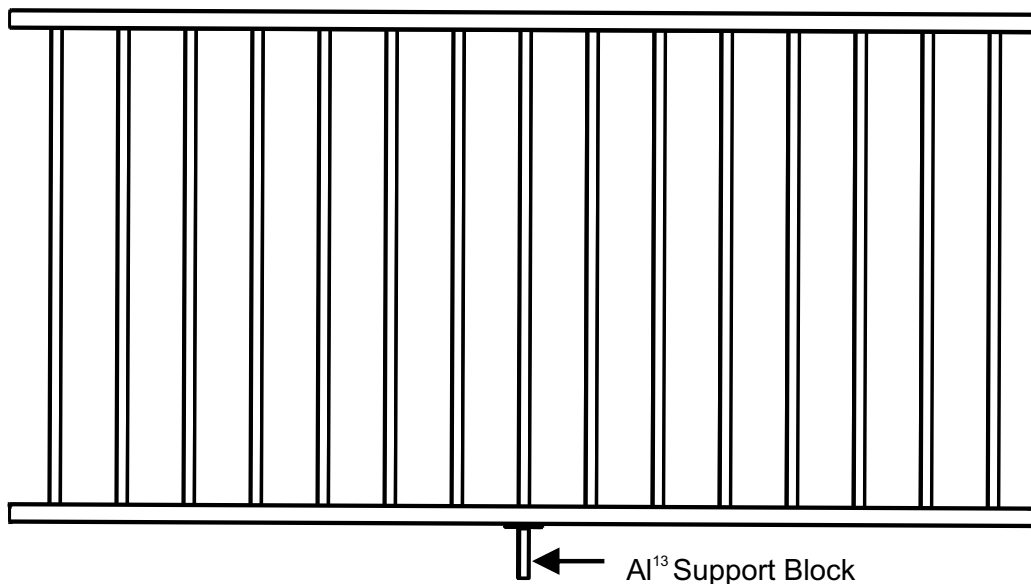
Cutting Al¹³ Traditional Panels

- The best way to cut Al¹³ Traditional Panels is to use a miter saw.
- A fine tooth carbide tipped blade designed to cut non-ferrous materials is recommended.
- Set up a work surface that is level and large enough to support all four corners of the Al¹³ Traditional Panel.
- Supports should be the same height as saw base to keep Al¹³ Traditional Panel straight and level when cutting.
- With Panels completely supported, make cuts at the marked locations from previous step.
- Remove any burrs or shavings from cut edges.
- Check the fit of Al¹³ Traditional Panel between post. **Be careful not to scratch post with end cuts.**



Al¹³ Support Block Installation

- Al¹³ Support Block is recommended for rail spans over 72" [1829 mm]
- Mark the center of Al¹³ Traditional Panel Bottom Rail.
- Position Al¹³ Support Block and mark hole locations.
- Pre-drill with a 3/16" Drill Bit.
- Secure Al¹³ Support Block with supplied screws.



Al¹³ Traditional Panel and Al¹³ Post Configurations

Railing Panel Height	Railing Panel without Accent Top Panel		Railing Panel with Accent Top Panel	
	Installed Panel Height*	Required Post	Installed Panel Height with ATP*	Required Post
34" [864 mm]	37-1/2" [953 mm]	39-1/2" [1003 mm]	42-1/2" [1078 mm]	45-1/2" [1156 mm]
38" [965 mm]	41-1/2" [1054 mm]	45-1/2" [1156 mm]	X	X
40" [1016 mm]	43-1/2" [1105 mm]	45-1/2" [1156 mm]	X	X

*Heights includes a 3-1/2" space between deck surface and bottom edge of bottom rail.

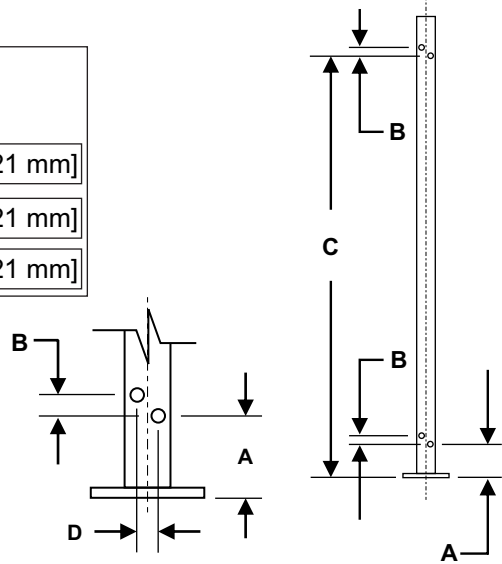
Evolve External Bracket Hole Locations for Al¹³ Traditional Panel Installations

Pre-Drilling with a 3/16" drill bit is required.

Railing Panel Height	Pre-Drill Dimensions			
	A*	B	C	D
34" [864 mm]	3-13/16" [97 mm]	1/2" [13 mm]	36-11/16" [932 mm]	13/16" [21 mm]
38" [965 mm]	3-13/16" [97 mm]	1/2" [13 mm]	40-11/16" [1033 mm]	13/16" [21 mm]
40" [1016 mm]	3-13/16" [97 mm]	1/2" [13 mm]	42-11/16" [1084 mm]	13/16" [21 mm]

*Dimension A positions bottom edge of rail 3-1/2" [89 mm] above deck surface.
 *Dimension A is measured from the bottom surface of post base.

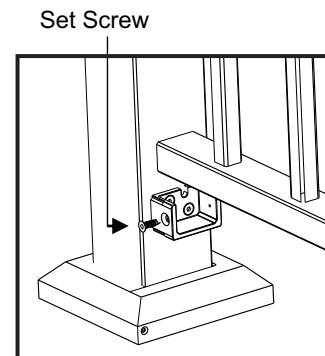
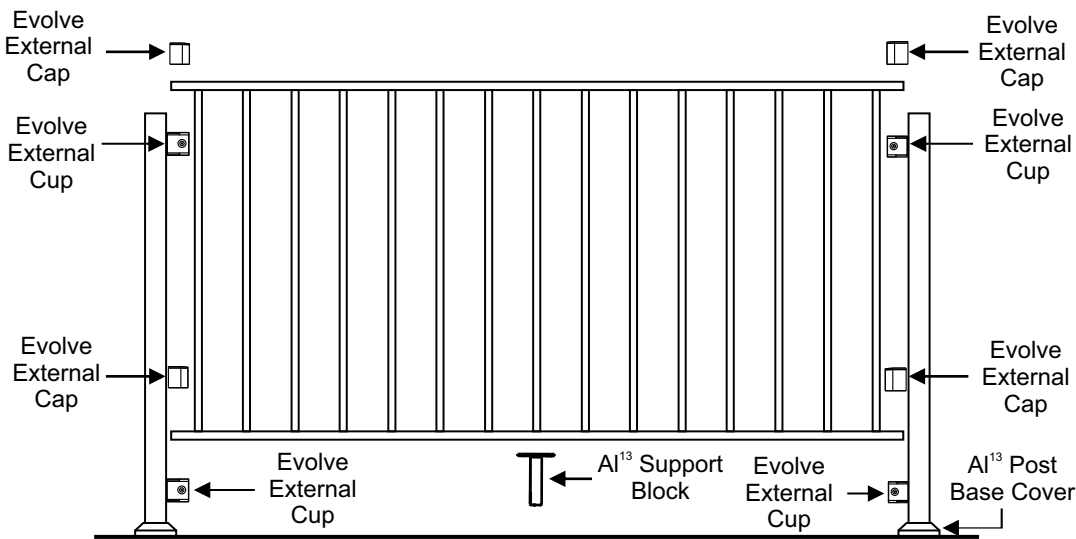
Remove all metal shavings from deck, post base cover, post, and panel before bracket is screwed to post to prevent corrosion.



Al¹³ Traditional Panel Installation with Evolve External Brackets

When using Evolve External Brackets, rails **MUST** be cut 1/2" [12 mm] shorter than the distance between posts. 1/4" [6 mm] should be cut from the end of each rail to keep rail panel centered between posts.

- Check fit of Al¹³ Panel between installed Al¹³ Posts.
 - Install Al¹³ Post Base Cover by sliding over the top of Al¹³ Post.
 - Secure Evolve External Brackets to Al¹³ Posts with provided T25 thread-cutting screws. Use two screws per bracket.
- Use low speed setting on drill.
- Drop Al¹³ Panel into installed Evolve External brackets.
 - Pre-drill set screw holes and secure rails with provided T25 thread-cutting screws at each Evolve External bracket.
 - Install Evolve External Caps by sliding the cap over the Evolve External Cup and tap gently with a hammer. Cap will snap into place.



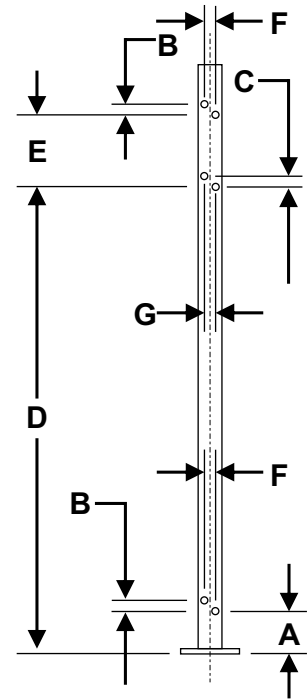
Evolve External Bracket Hole Locations for Al¹³ 34" Traditional Panel with Al¹³ Accent Top Panel

Pre-Drilling with a 3/16" drill bit is required.

Pre-Drill Dimensions				
A*	B & C	D	E	F & G
3-13/16" [97 mm]	1/2" [13 mm]	36-11/16" [932 mm]	5" [127 mm]	13/16" [21 mm]

- *Dimension A positions bottom edge of rail 3-1/2" above deck surface.
- *Dimension A is measured from the bottom surface of post base.

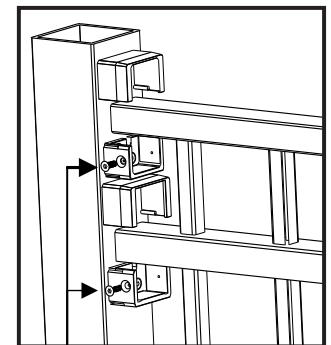
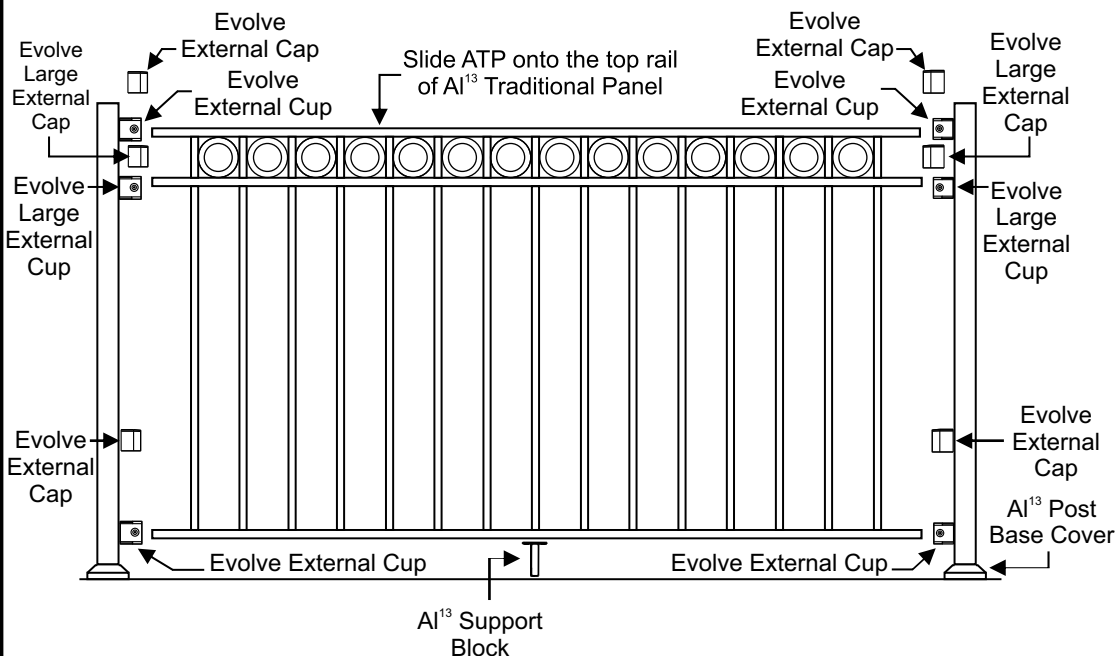
Remove all metal shavings from deck, post base cover, post, and panel before bracket is screwed to post to prevent corrosion.



Al¹³ Traditional Panel with a Al¹³ Accent Top Panel Installation with Evolve External and Evolve External Large Brackets

When using Evolve External Brackets, rails **MUST** be cut 1/2" [12 mm] shorter than the distance between posts. 1/4" [6 mm] should be cut from the end of each rail to keep rail panel centered between posts.

- Check fit of Al¹³ Panel between installed Al¹³ Posts.
- Install Al¹³ Post Base Cover by sliding over the top of Al¹³ Post.
- Slide Al¹³ Accent Top Panel panel over the top rail of the Al¹³ Traditional Panel.
- Secure External brackets to Al¹³ Posts with provided T25 thread-cutting screws. Use two screws per bracket. Use low speed setting on drill.
- Drop Al¹³ Panel into installed Evolve External brackets.
- Pre-drill set screw holes and secure rails with provided T25 thread-cutting screws at each Evolve External bracket.
- Install Evolve External Caps by sliding the cap over the Evolve External Cup and tap gently with a hammer. Cap will snap into place.



Set Screw

