

# TABLE OF CONTENTS

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Introduction.....	3
Level Bracket	
External Bracket.....	4
Internal Bracket.....	18
P2 Bracket.....	22
Angle Bracket.....	28
Stair Bracket	
Stair Bracket .....	33
P2 Stair Bracket .....	39
Care & Maintenance/Warranty.....	43

## INTRODUCTION

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### READ INSTRUCTIONS COMPLETELY BEFORE STARTING INSTALLATION

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 Building Products and its distributors shall not be held liable for improper or unsafe installations.

Fortress Posts must always be secured to the deck framing and should never be attached to only the deck boards.

#### 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" [5mm] drill bit.**

## Required Tools



Goggles



Safety  
Gloves



Tape  
Measurer



Speed  
Square



Level  
Tool



Touch-Up  
Paint



T-25  
Driver Bit



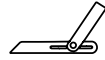
Drill Bits:  
1/16", 3/16", 3/8",  
[1.5mm, 4.5mm, 9.5mm]



Bit  
Extender



Spring  
Punch



Angle  
Finder



Drill



Miter Saw With A  
Fine Tooth Carbide  
Cutting Blade



Rubber  
Mallet



Pencil



2" x 4"  
Wood

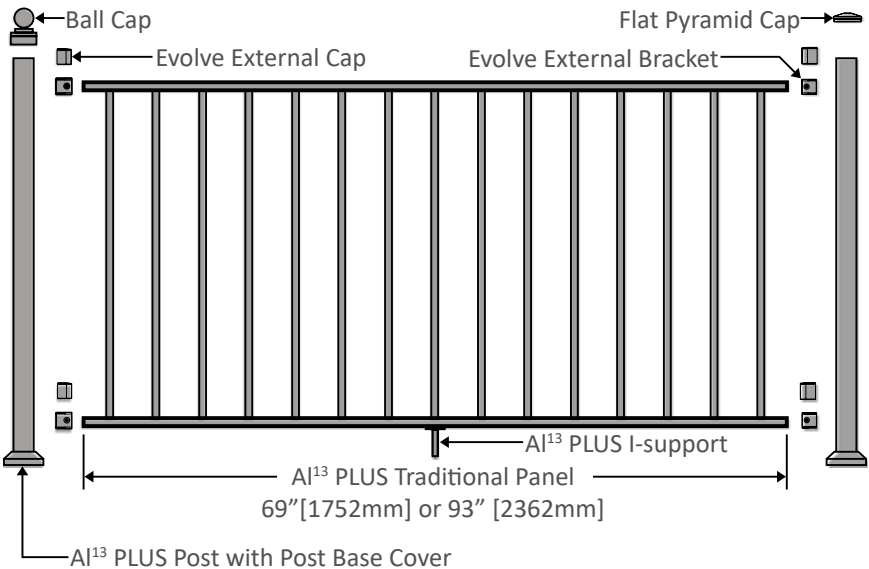


File

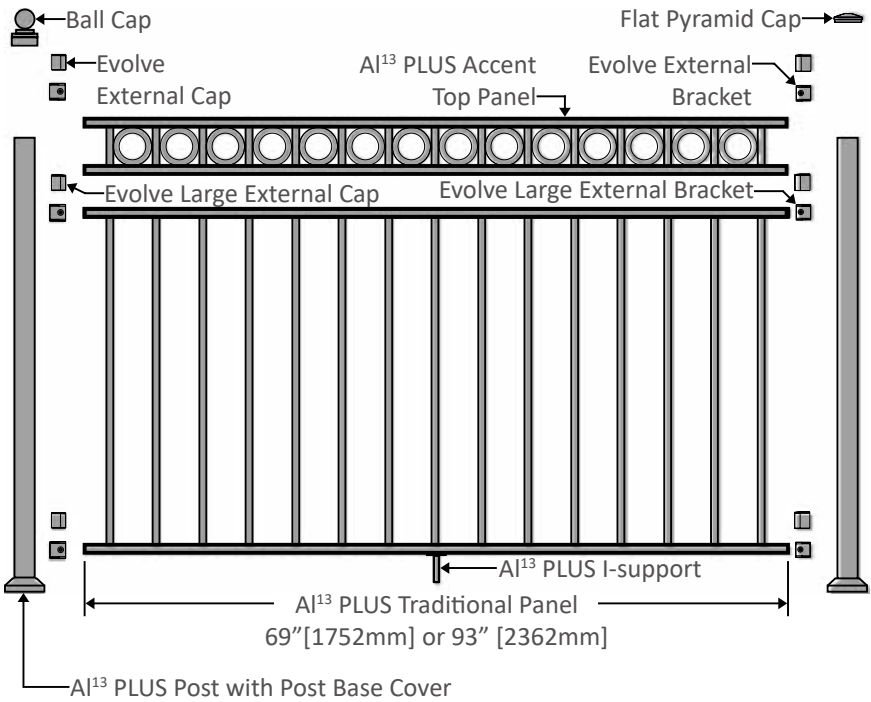
## EVOLVE EXTERNAL BRACKET

### AI<sup>13</sup> PLUS: Evolve External Brackets Installation Options

#### AI<sup>13</sup> PLUS Traditional Panel



# AI<sup>13</sup> PLUS Traditional Panel with AI<sup>13</sup> PLUS Accent Top Panel (ATP)



## Evolve External Bracket Post Configuration

AI <sup>13</sup> PLUS Panel Height	Rail Panel Without ATP		Rail Panel With ATP	
	Installed Panel Height*	Required Post	Installed Panel Height*	Required Post
32" [813mm]	35-1/2" [902mm]	39-1/2" [1003 mm]	40-5/16" [1024mm]	45-1/2" [1156mm]
34" [864mm]	37-1/2" [953mm]	39-1/2" [1003 mm]	42-5/16" [1075mm]	45-1/2" [1156mm]
38" [965mm]	41-1/2" [1054mm]	45-1/2" [1156 mm]	46-5/16" [1176mm]	55-1/2" [1410mm]
40" [1016mm]	43-1/2" [1105mm]	45-1/2" [1156 mm]		

\*Installed heights include a 3-1/2" [89mm] space between deck surface and bottom edge of bottom rail.

## EVOLVE EXTERNAL BRACKET: POST MOUNTING

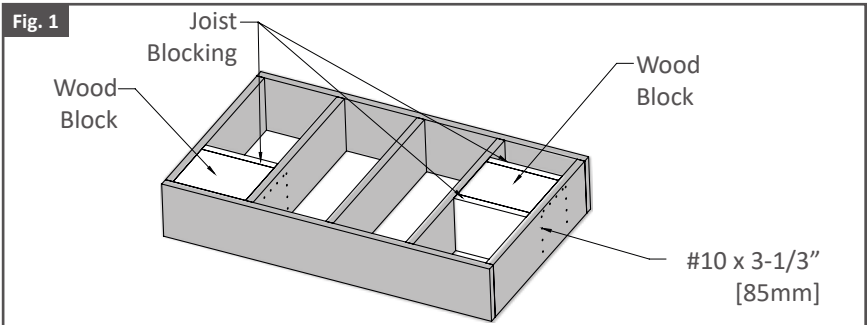
\*If using Fortress Evolution Framing, contact Fortress for instructions.

### Note:

**It's recommended to install brackets into post before Post Mounting. Reference page 8 for Bracket Installation steps.**

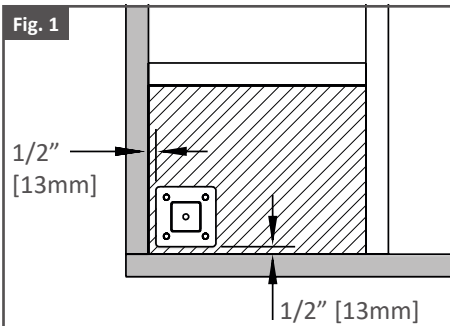
### Step 1: Install Wood Blocks

1. Install Wood Block level with top of joist. As shown in Fig. 1.
2. Secure Wood Block to blocking on all four sides with #10 X 3-1/2" [89mm] deck screws.
  - Wood Block must be constructed with treated dimensional lumber with a minimum thickness of 1-1/2" [38mm].



### Step 2: Position Base Plate

1. Position the edge of base plate a minimum of 1/2" [13mm] from the inside edge of rim joist. As shown in Fig. 1.

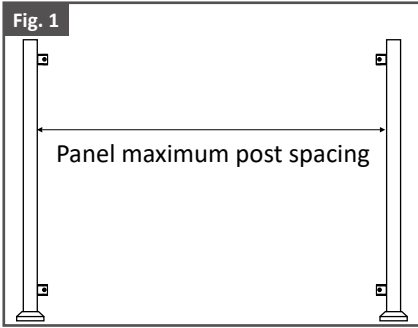


### Step 3: Max Post Spacing

- 6' panel maximum post spacing is 69-3/4" [1772mm].
- 8' panel maximum post spacing is 93-3/4" [2381mm].

#### Note:

- Do not exceed the maximum post spacing.

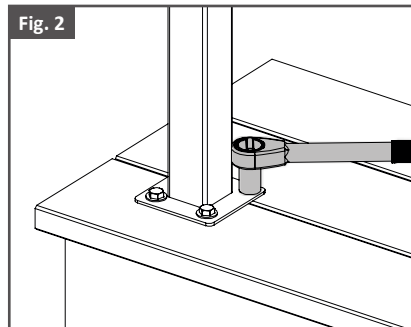
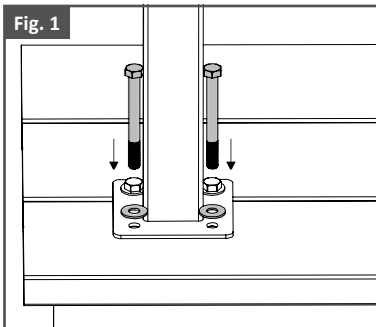


### Step 4: Mount Posts

1. Mark hole locations and pre-drill a 3/8" [10mm] hole.
2. Insert 3/8" x 3-1/2" [10mm x 89mm] Hex Head galvanized bolts through 3/8" [10mm] galvanized washer and post base plate.

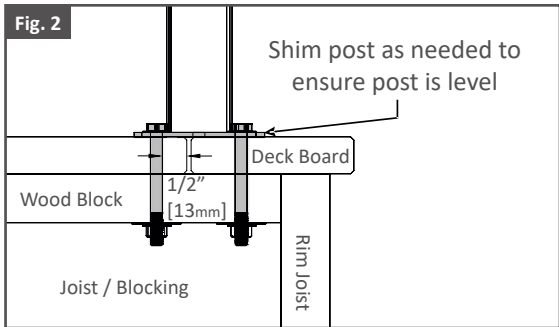
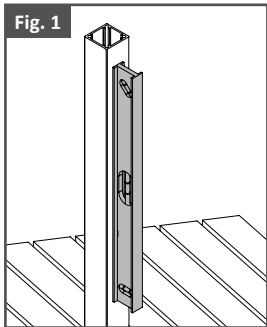
#### Note:

- Post Base Plate holes **MUST** be positioned a minimum 1/2" [13mm] from edge of deck board.
- Use only 3/8" [10mm] Hex Head Galvanized Bolts. Lag Screws should **NOT** be used. Secure each post with four bolts.



### Step 5: Check Mounted Posts

1. Shim post as needed to ensure post is level.



## EVOLVE EXTERNAL BRACKET: BRACKET INSTALLATION

### Step 1: Mark Bracket Hole Locations (without ATP or with ATP)

1. Mark the centerline of each post with a pencil.
2. Take measurements used to mark bottom and top bracket hole locations onto posts. **Reference Fig. 1 and 2 for Evolve External Bracket without ATP and Fig. 3 and 4 for Evolve External Bracket with ATP.**

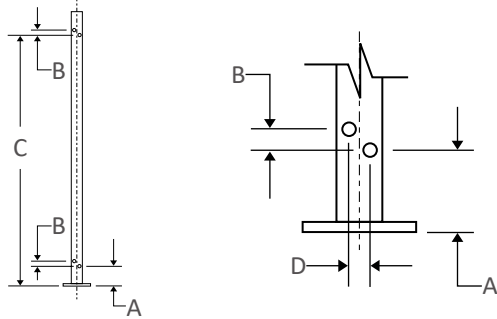
#### Note:

- AL<sup>13</sup> PLUS has a spacing of 3-1/2" [89mm] between the deck surface and underside of bottom rail.

Fig. 1 Bracket Hole Locations: Evolve External Bracket Without ATP				
Pre-drill Dimensions: Pre-drilling with a 3/16" [5mm] drill bit is required				
A*	B	C	D	
<b>32" [813mm] Panel</b>				
3-13/16" [97mm]	1/2" [13mm]	34-11/16" [881mm]	13/16" [21mm]	
<b>34" [864mm] Panel</b>				
3-13/16" [97mm]	1/2" [13mm]	36-11/16" [932mm]	13/16" [21mm]	
<b>38" [965mm] Panel</b>				
3-13/16" [97mm]	1/2" [13mm]	40-11/16" [1033mm]	13/16" [21mm]	
<b>40" [1016mm] Panel</b>				
3-13/16" [97mm]	1/2" [13mm]	42-11/16" [1084mm]	13/16" [21mm]	

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

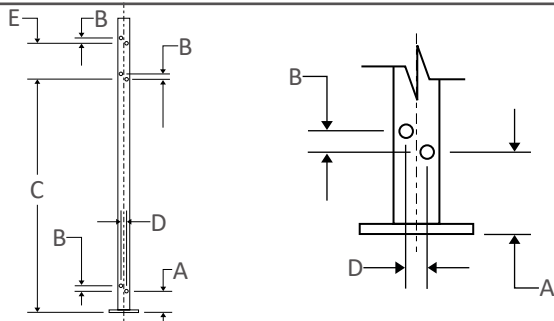


**Fig. 2****Evolve External Bracket Without ATP****Fig. 3****Bracket Hole Locations: Evolve External Bracket With ATP**

**Pre-drill Dimensions:** Pre-drilling with a 3/16" [5mm] drill bit is required

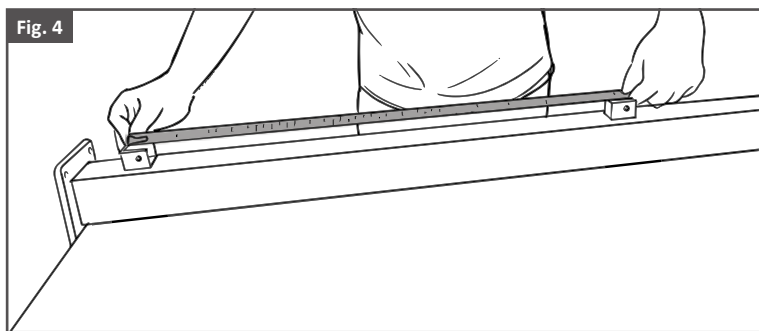
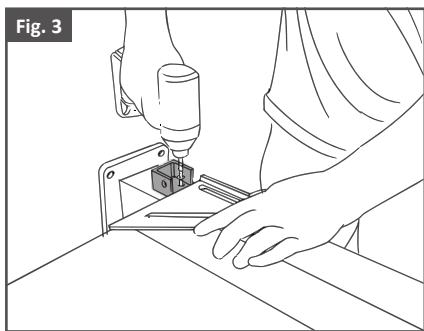
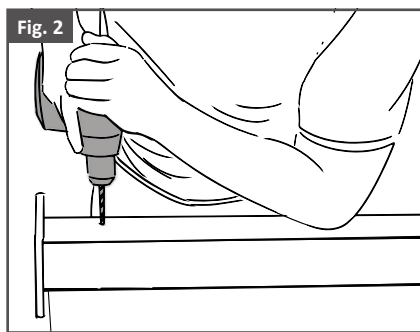
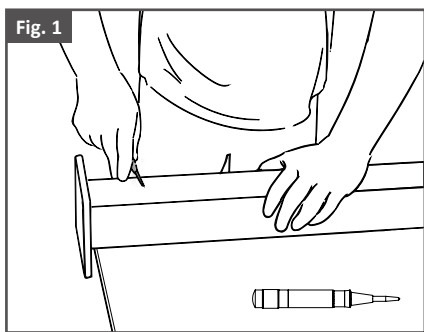
A*	B	C	D	E
Reference Fig. 1 on page 8 for A, B, C & D dimensions.				4-13/16" [122mm]

- All panel sizes except 40" [1016mm] panel can use the ATP.
  - Only 32" and 38" panels are used with ATP's in California.
- \*Dimension A positions bottom edge of bottom rail 3-1/2" [89mm] above deck surface.  
 \*Dimension A is measured from the bottom surface of post base.

**Fig. 4****Evolve External Bracket With ATP****Step 2: Pre-Drill and Install Brackets****Tip:**

- It's important to double check dimensions to confirm accuracy of bracket hole locations before drilling.
  - If installing Evolve External Brackets with the ATP, be sure to confirm bracket size used. Reference assembly on page 5.
1. Use Spring Punch to mark the holes. As shown in Fig. 1.
  2. Pre-drill bracket holes with a 3/16" [5mm] drill bit. As shown in Fig. 2.

3. Attach bracket to the posts with supplied T-25 Thread-Cutting Screws. Use two screws per bracket, located diagonally from each other. Use low speed setting on drill. As shown in Fig. 3.
4. Once top and bottom brackets are installed, remeasure bracket spacing to confirm dimensions used in Fig. 2 and 3 of step 1 (page 8). As shown in Fig. 4.
5. Remove all metal shavings from deck, post base cover, post, and panel before bracket is screwed to post to prevent corrosion.



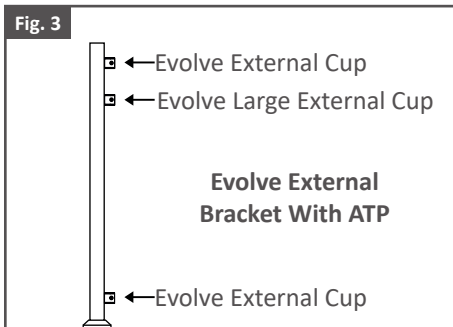
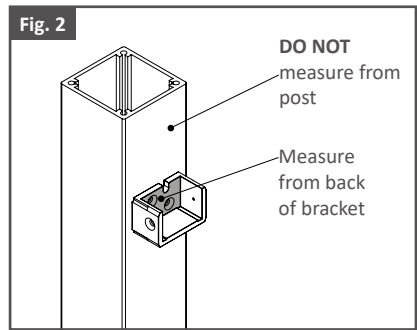
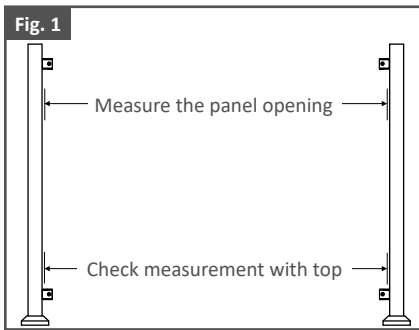
## **EVOLVE EXTERNAL BRACKET: CUTTING DOWN PANEL & ATP**

### **Step 1: Measure The Panel Opening Length**

1. Measure the distance of the panel opening. As shown in Fig. 1.
2. Confirm that the measurements for the top brackets are the same as the bottom brackets.

#### **Tip:**

- Measure from the back wall of the bracket to the back wall of the bracket on other post. As shown in Fig. 2.
- If installing Evolve External Brackets with the ATP, be sure to confirm measurement of both bracket sizes used. As shown in Fig. 3.
- **The panel cutting process (steps 1 - 4) can be used when cutting the ATP.**

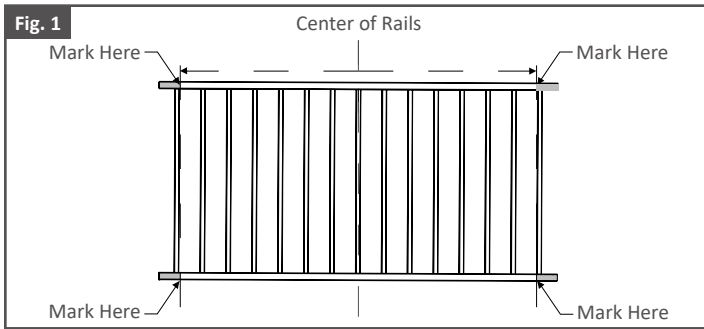


## Step 2: Mark Panel Cut Points

1. Position the panel on a flat surface.
2. To ensure rails are symmetrical, take the measurement found in step 1 and divide it in half.
3. Find and mark the center of the rail.
4. From the previously marked center, measure out the divided length in each direction.
5. Mark these locations with a pencil on the top/bottom rail.

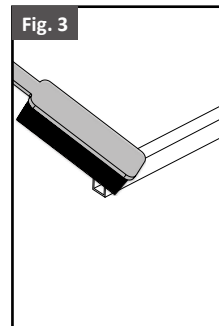
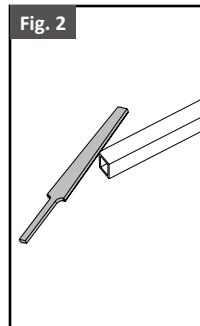
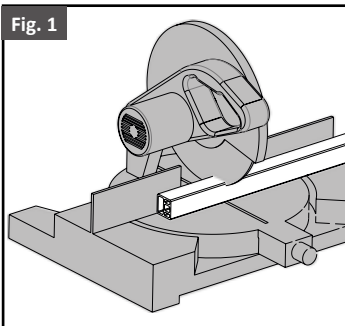
### Tip:

- For ease of installation, Only the final panel in each run will need to be cut. Reference the post max. spacing used on page 7, step 3.



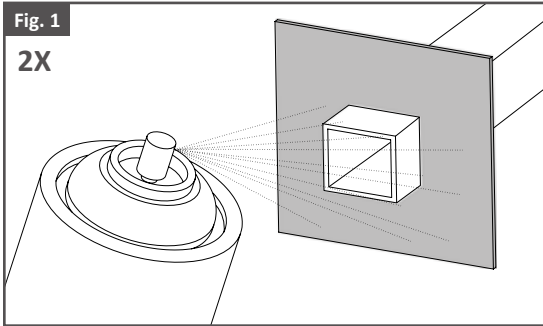
## Step 3: Cut & Clean Panel

1. Cut the panel using a saw with a fine tooth carbide cutting blade.
2. Use file to smooth cut edges.
3. Remove any metal shavings and dust with a brush or rag.
4. Make sure surfaces to be painted are clean.



#### Step 4: Apply Spray Paint To Cut Areas

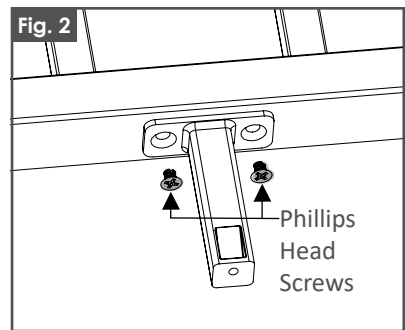
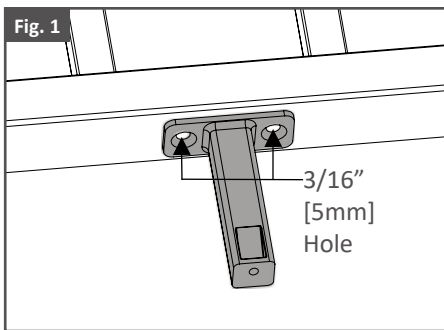
1. Using a piece of cardboard as a mask, apply the 1<sup>st</sup> coat of Fortress zinc based touch-up paint.
2. Allow to dry before applying second coat.
3. Apply the 2<sup>nd</sup> coat of Fortress zinc based touch-up paint.
4. Allow to dry and install.



### EVOLVE EXTERNAL BRACKET: PANEL INSTALLATION

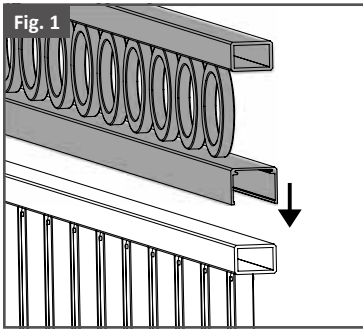
#### Step 1: Install I-Support On Bottom Rail (Optional)

1. Measure and locate the center of the bottom rail. Using the I-Support as a guide, mark the center of the 2 screw holes. As shown in Fig. 1.
2. Using a 3/16" [5mm] drill bit, drill through the outside wall.
3. Install the I-Support with the provided Phillips Head Screws. As shown in Fig. 2.



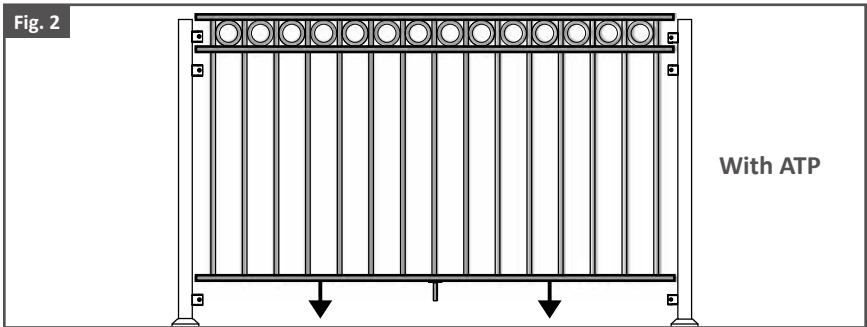
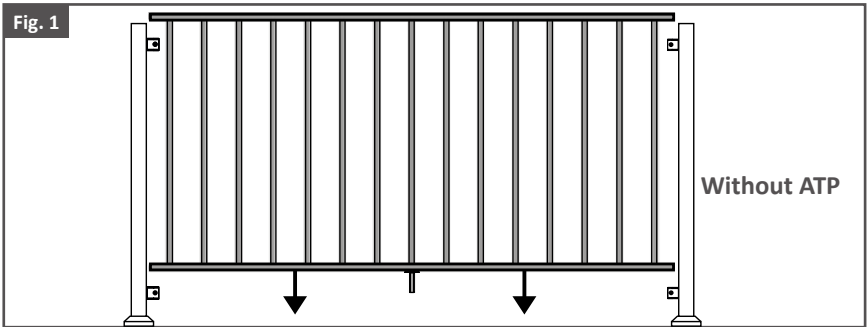
## Step 2: Install ATP Onto Panel (Only For Panel Using ATP)

1. The ATP is press fit into place. As shown in Fig. 1.



## Step 3: Install Panel

1. Install cut panel to ensure proper fit. As shown in Fig. 1 & 2.

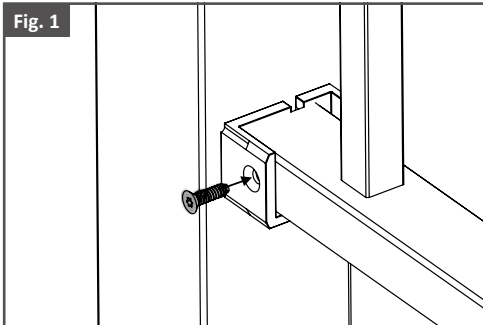


#### Step 4: Attach Panel To Bottom & Top Brackets

1. Pre-drill holes for screws using a 3/16" [5mm] drill bit.
2. Apply screws into bottom & top brackets. As shown in Fig. 1.

#### Note:

- Only one screw per bracket is needed to secure the bracket to the panel.
- Screws should be installed on the same side of brackets.

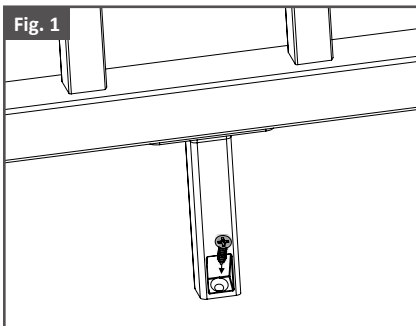


#### Step 5: Attach I-Support To Deck (Optional)

1. Fasten I-Support to deck surface with the supplied Wood Screw.

#### Tip:

- Pre-drill with a 1/16" [2mm] drill bit.



## EVOLVE EXTERNAL BRACKET: POST BASE COVER, BRACKET CAP & FLAT PYRAMID/BALL CAP INSTALLATION

### Step 1: Install Post Base Cover

1. Separate the two-piece base plate cover. Hold one side parallel to the post base plate. As shown in Fig. 1.
2. Place 2nd half of the post base cover on the opposite side of the post. Hold 2nd piece slightly under the 1st piece. As shown in Fig. 2.
3. Twist the 2nd cover  $\frac{1}{4}$  turn and move piece until both half's touch. As shown in Fig. 3.
4. Make sure one of the locking pins on the 2nd cover engage with the proper slot on the 1st cover piece. As shown in Fig. 4.
5. Once the first locking pin is started, turn the 2nd cover piece back parallel to the post base plate. One you have confirmed both locking pins have engaged with the opposing slots lower both half's over the post base plate. As shown in Fig. 5.

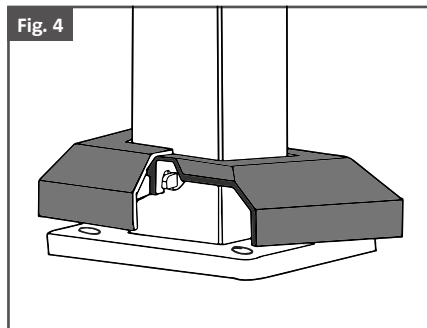
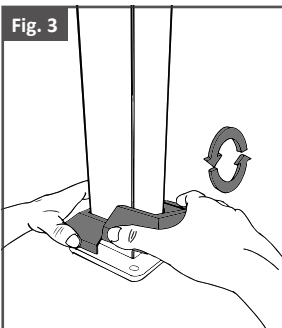
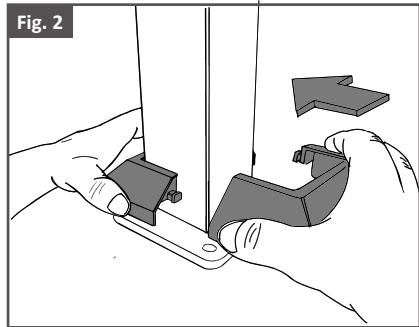
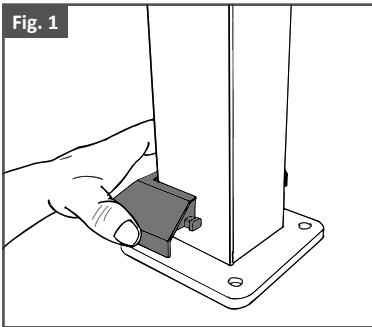
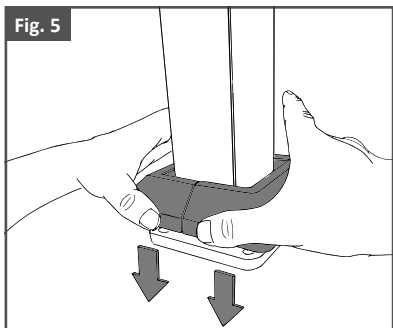




Fig. 5



## Step 2: Install Bracket Caps

1. Bracket Caps snap over Bracket Cups. As shown in Fig. 1 & 2.

### Note:

- If installing a drink rail & cap rail clips, install top bracket caps on the underside of the bracket.

Fig. 1

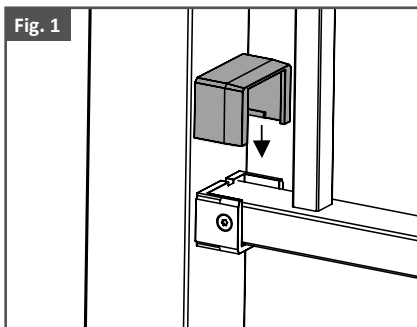
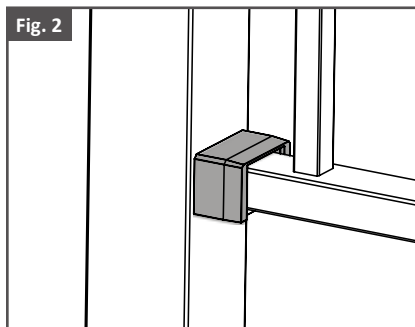


Fig. 2



## Step 3: Install Flat Pyramid/Ball Cap

1. Flat Pyramid/Ball Caps are press fit into place. As shown in Fig. 1 & 2. Use a rubber mallet to help seat cap into place.
2. Use a broom or compressor to remove debris from railing and deck surface.

Fig. 1

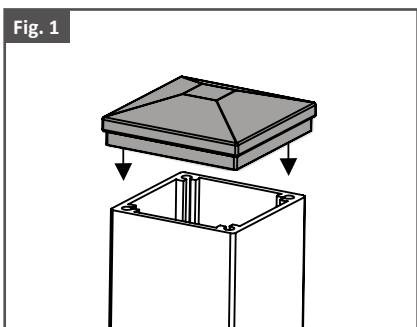
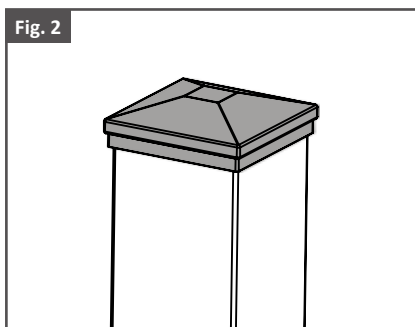


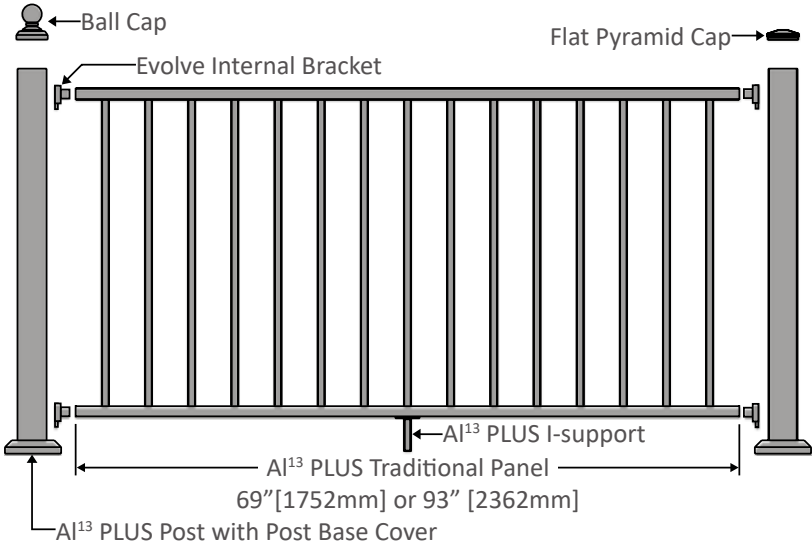
Fig. 2



# EVOLVE INTERNAL BRACKET

## AI<sup>13</sup> PLUS: Evolve Internal Brackets Installation Options

### AI<sup>13</sup> PLUS Traditional Panel



### Evolve Internal Bracket Post Configuration

#### AI<sup>13</sup> PLUS Panel Height

32" [813mm]
34" [864mm]
38" [965mm]
40" [1016mm]

#### Rail Panel Without ATP

##### Installed Panel Height\*

##### Required Post

35-1/2" [902mm]	39-1/2" [1003 mm]
37-1/2" [953mm]	39-1/2" [1003 mm]
41-1/2" [1054mm]	45-1/2" [1156 mm]
43-1/2" [1105mm]	45-1/2" [1156 mm]

\*Installed heights include a 3-1/2" [89mm] space between deck surface and bottom edge of bottom rail.

## EVOLVE INTERNAL BRACKET: POST MOUNTING

- Reference Post Mounting instructions on page 6.

### Note:

IT'S RECOMMENDED TO INSTALL BRACKETS ON TO POST BEFORE POST MOUNTING.

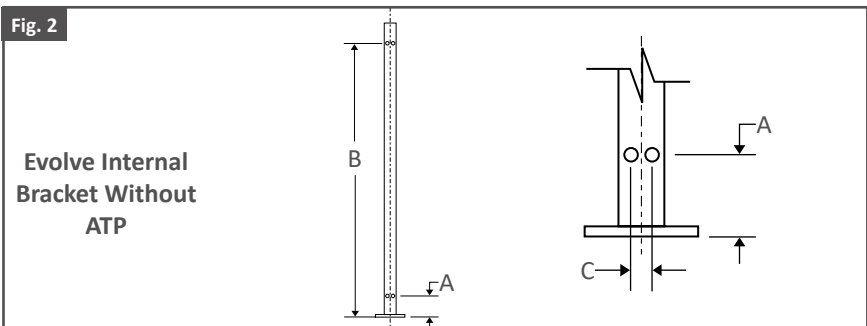
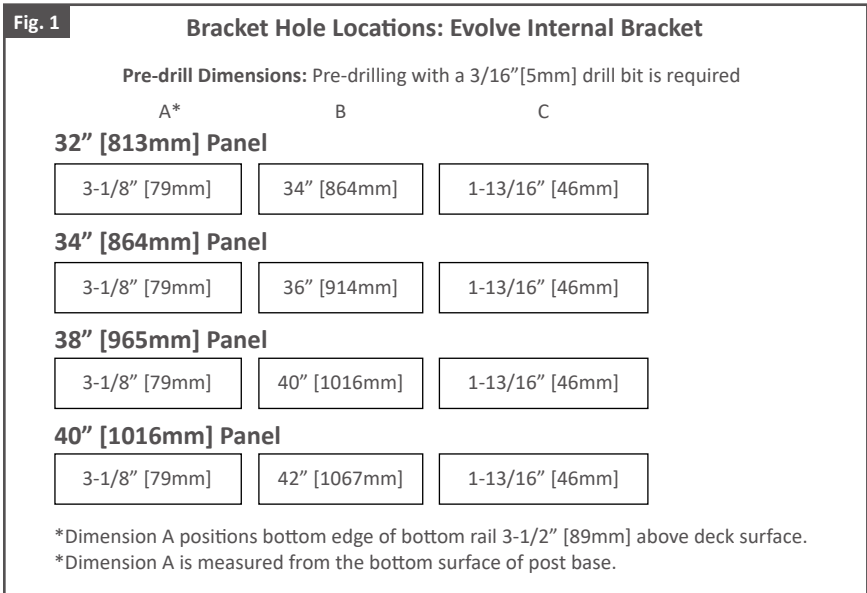
## EVOLVE INTERNAL BRACKET: BRACKET INSTALLATION

### Step 1: Mark Bracket Hole Locations

1. Mark the centerline of each post with a pencil.
2. Take measurements used to mark bottom and top bracket hole locations onto posts. Reference Fig. 1 and 2.

#### Note:

- AL<sup>13</sup> PLUS has a spacing of 3-1/2" [89mm] between the deck surface and underside of bottom rail.



## Step 2: Pre-Drill Bracket Holes

- Reference Bracket hole pre-drilling instructions on pages 9 & 10.

### Note:

- **DO NOT** install Brackets in this step.

## **EVOLVE INTERNAL BRACKET: CUTTING DOWN PANEL**

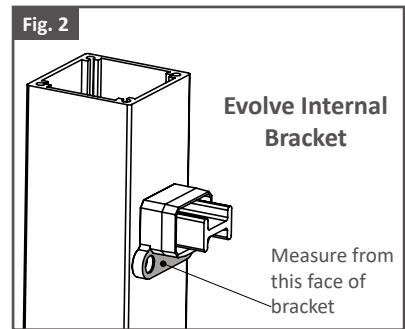
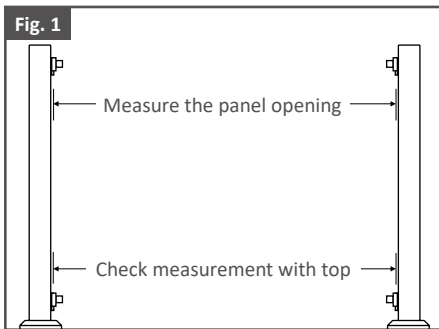
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### Step 1: Measure The Panel Opening Length

1. Measure the distance of the panel opening. As shown in Fig. 1.
2. Confirm that the measurements for the top brackets are the same as the bottom brackets.

### Tip:

- **For the Internal Bracket, measure from the face shown in Fig. 2.**



### Step 2: Continue Panel Cutting & Clean Steps

1. Reference steps 2 - 4 on pages 12 & 13 for the remaining panel cutting and cleaning steps.

## **EVOLVE INTERNAL BRACKET: PANEL INSTALLATION**

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### Step 1: Install I-Support On Bottom Rail (Optional)

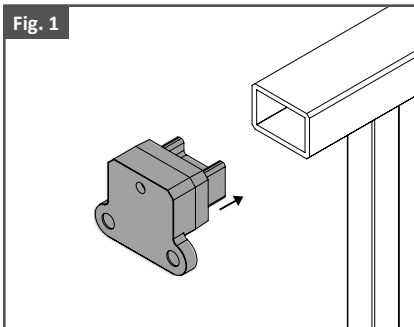
- Reference I-support installation step on page 13.

### Step 2: Mount Evolve Internal Brackets Onto Panel

1. Insert Evolve Internal Brackets into Top and Bottom Rails. As shown in Fig. 1.

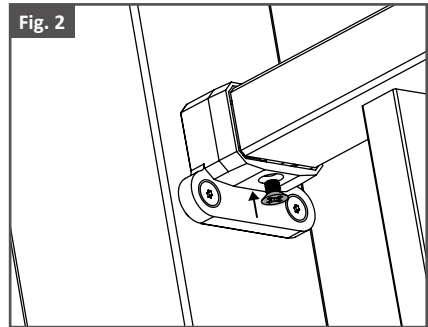
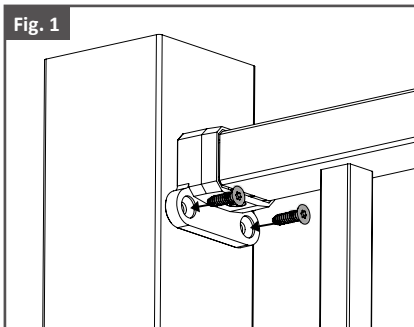
**Tip:**

- Depending on the version of the Evolve Internal Bracket used, the screw holes may need to be pre-drilled with a 1/4" [6mm] drill bit.



**Step 3: Mount Panel Onto Posts**

1. Secure brackets into pre-drilled bracket holes with provided T-25 Drive Thread-Cutting Screws. As shown in Fig. 1.
2. Pre-drill Bracket Set Screw holes on bottom & top Rail using a 1/16" [2mm] drill bit.
3. Secure Bracket to Rail with provided Phillips Head Screw. Use low speed setting on drill. As shown in Fig. 2.



**Step 4: Attach I-Support To Deck (Optional)**

- Reference I-support mounting instructions on page 15, step 5.

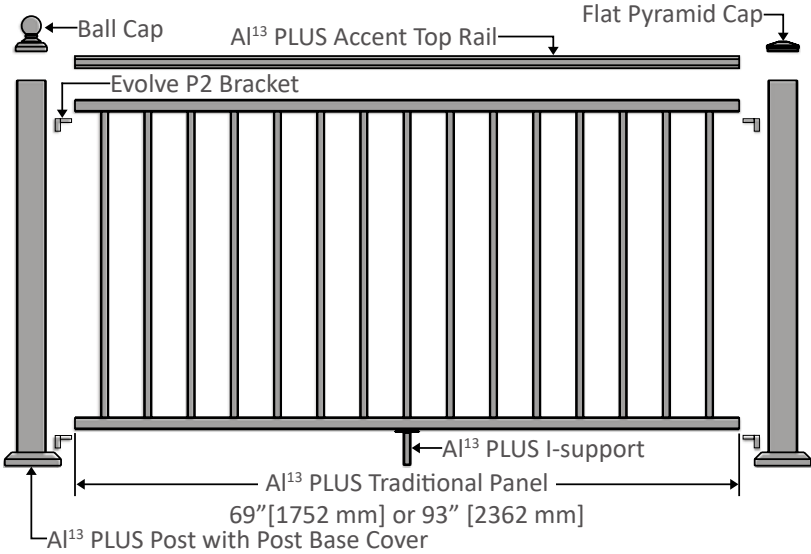
**EVOLVE INTERNAL BRACKET: POST BASE COVER, BRACKET CAP & FLAT PYRAMID/BALL CAP INSTALLATION**

- Reference Post Base Cover, Bracket Cap & Flat Pyramid/Ball Cap instructions on pages 16 - 17.

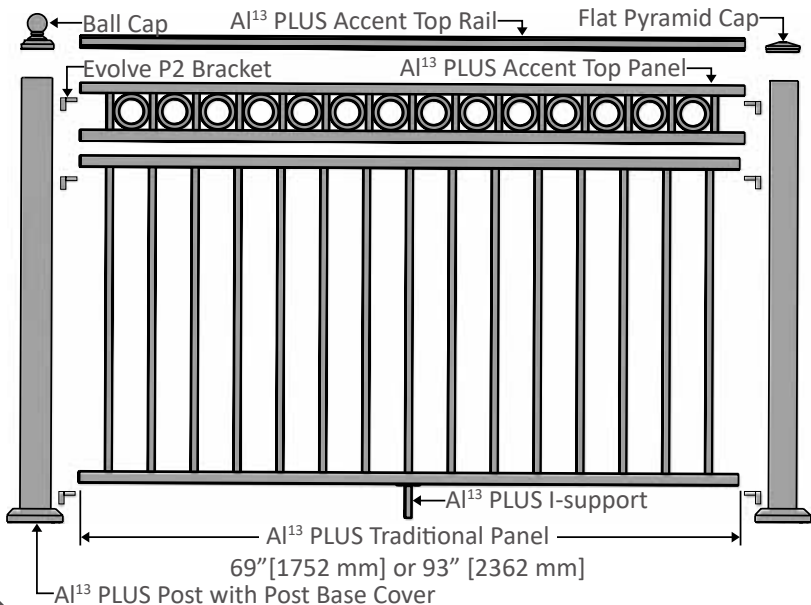
# EVOLVE P2 BRACKET

## AI<sup>13</sup> PLUS: P2 Bracket Installation Options

### AI<sup>13</sup> PLUS Traditional Panel



### AI<sup>13</sup> PLUS Traditional Panel with AI<sup>13</sup> PLUS Accent Top Panel (ATP)



## Evolve P2 Bracket Post Configuration

AL <sup>13</sup> PLUS Panel Height	Rail Panel Without ATP		Rail Panel With ATP	
	Installed Panel Height*	Required Post	Installed Panel Height*	Required Post
32" [813mm]	35-1/2" [902mm]	39-1/2" [1003 mm]	40-5/16" [1024mm]	45-1/2" [1156mm]
34" [864mm]	37-1/2" [953 mm]	39-1/2" [1003 mm]	42-5/16" [1075mm]	45-1/2" [1156mm]
38" [965mm]	41-1/2" [1054 mm]	45-1/2" [1156 mm]	46-5/16" [1176mm]	55-1/2" [1410mm]
40" [1016mm]	43-1/2" [1105 mm]	45-1/2" [1156 mm]		

\*Installed heights include a 3-1/2" [89mm] space between deck surface and bottom edge of bottom rail.

## EVOLVE P2 BRACKET: BRACKET INSTALLATION

### Step 1: Mark Bracket Hole Locations (without ATP or With ATP)

1. Mark the centerline of each post with a pencil.
2. Take measurements used to mark bottom and top bracket hole locations onto posts. **Reference Fig. 1 and 2 for Evolve P2 Bracket without ATP and Fig. 3 and 4 for Evolve P2 Bracket with ATP.**

#### Note:

- AL<sup>13</sup> PLUS has a spacing of 3-1/2" [89mm] between the deck surface and underside of bottom rail.

**Fig. 1**

### Bracket Hole Locations: Evolve P2 Bracket Without ATP

Pre-drill Dimensions: Pre-drilling with a 3/16" [5mm] drill bit is required

A*	B	C
<b>32" [813mm] Panel</b>		
3" [76mm]	33-7/8" [860mm]	1-13/16" [46mm]
<b>34" [864mm] Panel</b>		
3" [76mm]	35-7/8" [911mm]	1-13/16" [46mm]
<b>38" [965mm] Panel</b>		
3" [76mm]	39-7/8" [1013mm]	1-13/16" [46mm]
<b>40" [1016mm] Panel</b>		
3" [76mm]	41-7/8" [1064mm]	1-13/16" [46mm]

\*Dimension A positions bottom edge of bottom rail 3-1/2" [89mm] above deck surface.

\*Dimension A is measured from the bottom surface of post base.

Fig. 2

**Evolve P2 Bracket Without ATP**

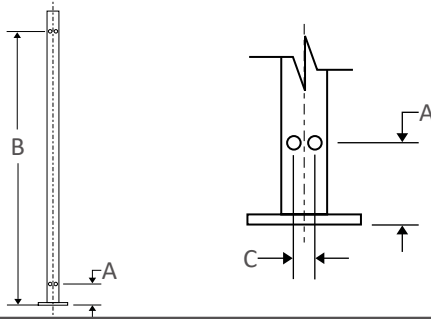


Fig. 3

**Bracket Hole Locations: Evolve P2 Bracket With ATP**

Pre-drill Dimensions: Pre-drilling with a 3/16" [5mm] drill bit is required

A\*

B

C

D

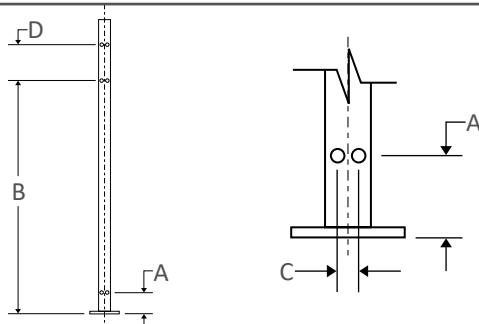
Reference Fig. 1 on page 23 for A, B & C dimensions.

4-7/8" [124mm]

- All panel sizes except 40" [1016mm] panel can use the ATP.
  - Only 32" and 38" panels are used with ATP's in California.
- \*Dimension A positions bottom edge of bottom rail 3-1/2" [89mm] above deck surface.  
 \*Dimension A is measured from the bottom surface of post base.

Fig. 4

**Evolve P2 Bracket With ATP**



**Step 2: Pre-Drill Bracket Holes**

- Reference Bracket hole pre-drilling instructions on pages 9 & 10.

**Note:**

- **DO NOT** install Brackets in this step.

**EVOLVE P2 BRACKET: POST MOUNTING**

- Reference Post Mounting instructions on page 6.



## **EVOLVE P2 BRACKET: CUTTING DOWN PANEL, ATP & ATR**

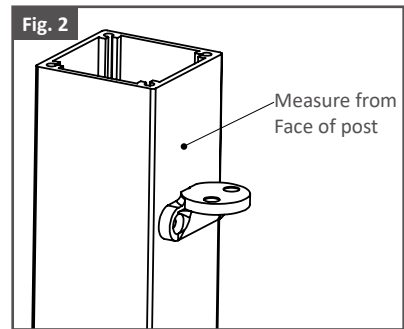
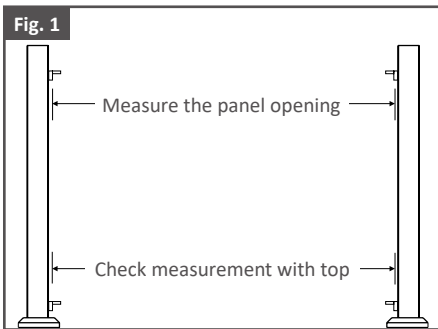
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### **Step 1: Measure The Panel Opening Length**

1. Measure the distance of the panel opening. As shown in Fig. 1.
2. Confirm that the measurements for the top brackets are the same as the bottom brackets.

#### **Tip:**

- Measure panel opening length from the face of the post. As shown in Fig. 2.
- **The panel cutting process (steps 1 & 2) can be used when cutting the ATP & ATR.**



### **Step 2: Continue Panel Cutting & Clean Steps**

1. Reference steps 2 - 4 on pages 12 & 13 for the remaining panel cutting and cleaning steps.

## **EVOLVE P2 BRACKET: PANEL INSTALLATION**

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### **Step 1: Install I-Support On Bottom Rail (Optional)**

- Reference I-support installation step on page 13.

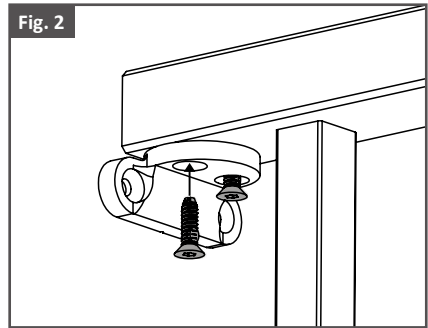
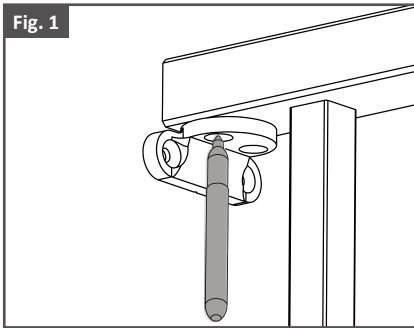
### **Step 2: Mount P2 Brackets Onto Panel**

1. Position P2 Bracket on the bottom face of the rails. Be sure to have back face of brackets & rails flush with rail end cut.
2. Using an pencil, mark bracket screw holes. As shown in Fig. 1.
3. Pre-drill bracket screw holes on rail using a 3/16" [5mm] drill bit.

- Secure bracket to rail with provided T-25 Drive Thread-Cutting Screws. Use low speed setting on drill. As shown in Fig. 2.

**Tip:**

- Depending on the version of the Evolve P2 Bracket used, the screw holes may need to be pre-drilled with a 1/4" [6mm] drill bit.



**Step 3: Install ATP Onto Panel**

- Reference ATP to panel mounting installation step on page 14, step 2.

**Step 4: Mount Panel Onto Posts**

- Reference panel to post mounting installation step on page 21, step 3.

**Step 5: Mount ATR Onto Panel**

- Just as the ATP, the ATR is press fit. Reference ATP to panel mounting installation step on page 14, step 2.

**Step 6: Attach I-Support To Deck (Optional)**

- Reference I-support mounting instructions on page 15, step 5.

**EVOLVE P2 BRACKET: POST BASE COVER, JOINT COVER & FLAT PYRAMID/BALL CAP INSTALLATION**

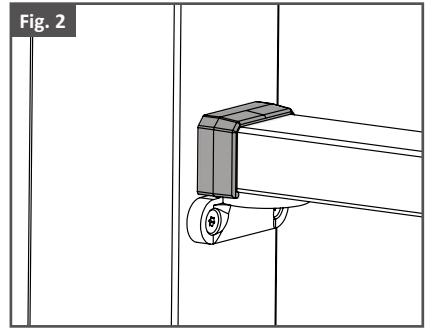
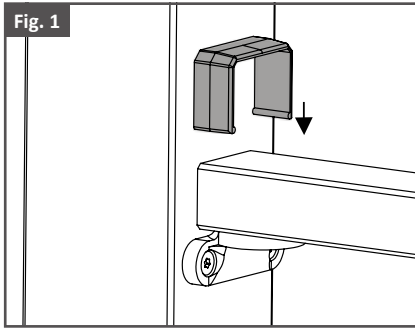
**Step 1: Install Joint Covers**

- Joint Covers are press fit into place. As shown in Fig. 1 & 2. Use a rubber mallet to help seat cap into place.

2. Use a broom or compressor to remove debris from railing and deck surface.

**Note:**

- To prevent movement of joint cover, use metal to metal epoxy to secure in place.



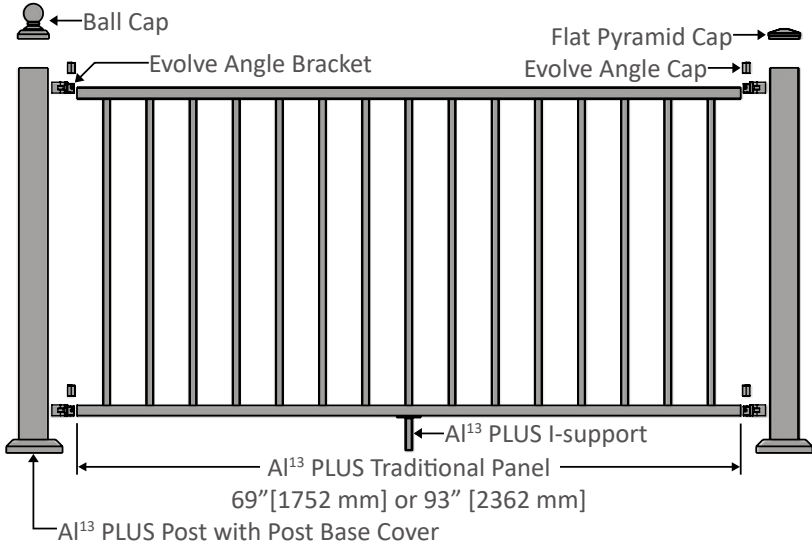
**Step 2: Install Post Base Covers & Flat Pyramid/ Ball Cap**

- Reference Post Base Cover & Flat Pyramid/Ball Cap instructions on pages 16 - 17.

## EVOLVE ANGLE BRACKET

### AI<sup>13</sup> PLUS: Evolve Angle Bracket Installation Option

#### AI<sup>13</sup> PLUS Traditional Panel



#### Evolve Angle Bracket Post Configuration

##### AI<sup>13</sup> PLUS Panel Height

32" [813mm]
34" [864mm]
38" [965mm]
40" [1016mm]

##### Rail Panel Without ATP

##### Installed

##### Panel Height\*

##### Required Post

35-1/2" [902mm]	39-1/2" [1003 mm]
37-1/2" [953 mm]	39-1/2" [1003 mm]
41-1/2" [1054 mm]	45-1/2" [1156 mm]
43-1/2" [1105 mm]	45-1/2" [1156 mm]

\*Installed heights include a 3-1/2" [89mm] space between deck surface and bottom edge of bottom rail.

## EVOLVE ANGLE BRACKET: ATP INSTALLATION

- Angle ATP can only be installed using the P2 Bracket. Reference P2 Bracket instructions on pages 22 - 27.

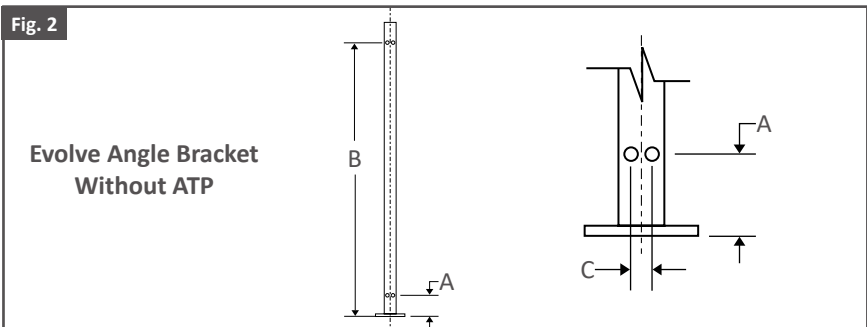
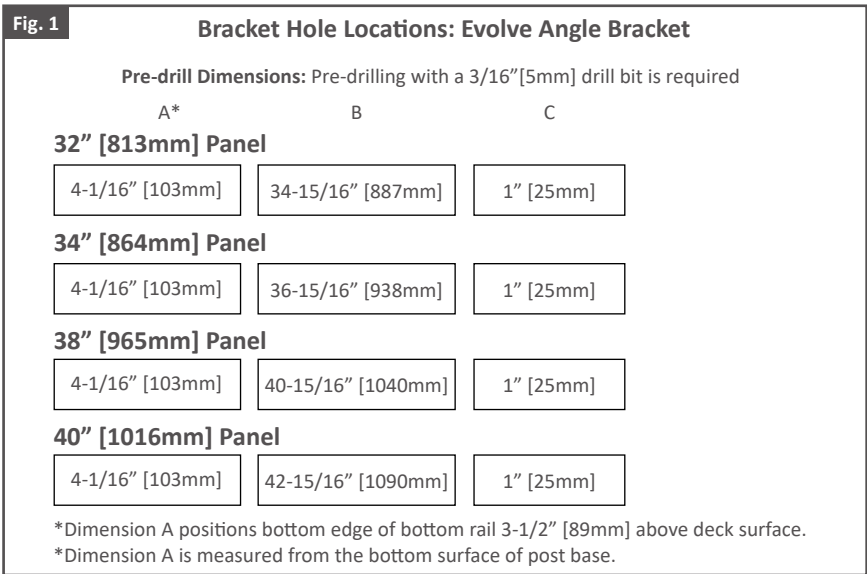
## EVOLVE ANGLE BRACKET: BRACKET INSTALLATION

### Step 1: Mark Bracket Hole Locations

1. Mark the centerline of each post with a pencil.
2. Take measurements used to mark bottom and top bracket hole locations onto posts. Reference Fig. 1 and 2.

#### Note:

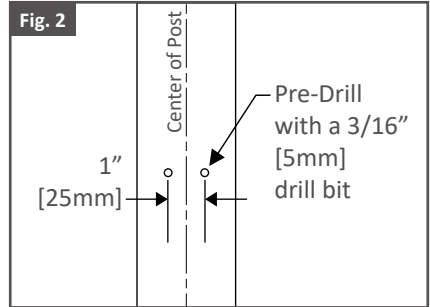
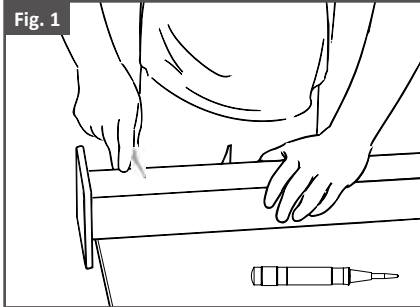
- AL<sup>13</sup> PLUS has a spacing of 3-1/2" [89mm] between the deck surface and underside of bottom rail.



## Step 2: Pre-drill Angle Bracket Holes

### Tip:

- It's important to double check dimensions to confirm accuracy of bracket hole locations before drilling.
1. Use Spring Punch to mark the holes. As shown in Fig. 1.
  2. Pre-drill bracket holes with a 3/16" [5mm] drill bit. As shown in Fig. 2.
  3. Remove the bolt from the Angle Bracket Assembly.

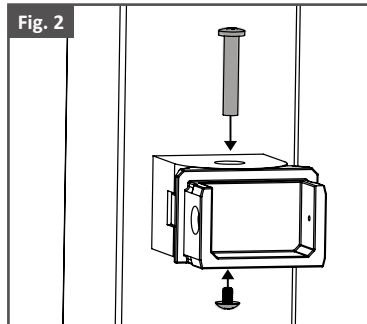
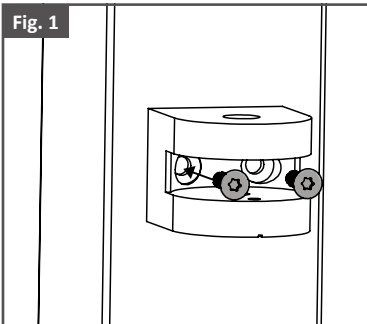


## Step 3: Install Angle Brackets

1. Attach Angle Bracket Base to the posts with supplied T-25 Thread-Cutting Screws. Use low speed setting on drill. As shown in Fig. 1.
2. Assemble Angle Bracket Body piece & Base piece. As shown in Fig. 2.

### Tip:

- Use a Bit Extender.
- Depending on the version of the Evolve Angle Bracket used, the screw holes may need to be pre-drilled with a 1/4" [6mm] drill bit.



## **EVOLVE ANGLE BRACKET: POST MOUNTING**

- Reference Post Mounting instructions on page 6.

### **Note:**

IT'S RECOMMENDED TO INSTALL BRACKETS ON TO POST BEFORE POST MOUNTING.

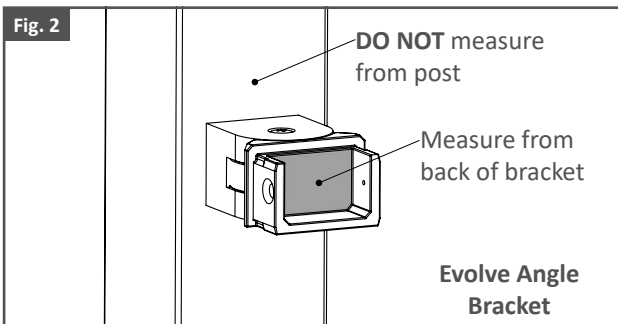
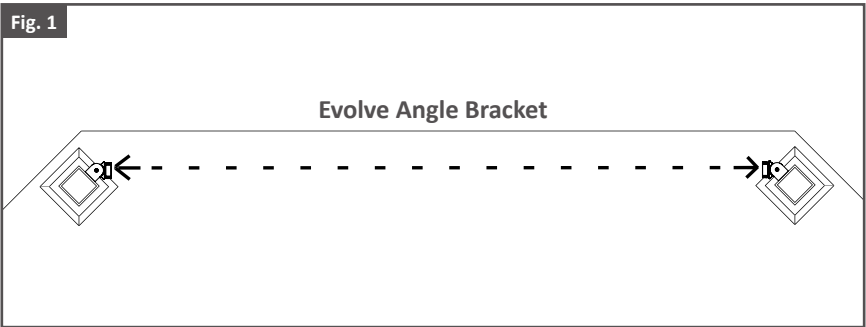
## **EVOLVE ANGLE BRACKET: CUTTING DOWN PANEL & ATP**

### **Step 1: Measure The Panel Opening Length**

1. Check to ensure that all posts are square and straight. Shim posts as required.
2. Ensure that the Angle Bracket Cups are appropriately aligned.
3. Measure the distance from the inside back of one cup to the inside back of the other cup. This will be the panel length. As shown in Fig. 2.

### **Tip:**

- **The panel cutting process (steps 1 & 2) can be used when cutting the ATP.**



### **Step 3: Continue Panel Cutting & Clean Steps**

- Reference steps 2 - 4 on pages 12 & 13 for the remaining panel cutting and cleaning steps.

### **EVOLVE ANGLE BRACKET: PANEL INSTALLATION**

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- Reference Panel installation instructions on pages 13 - 15.

### **EVOLVE ANGLE BRACKET: POST BASE COVER, BRACKET CAP/ JOINT COVER & FLAT PYRAMID/BALL CAP INSTALLATION**

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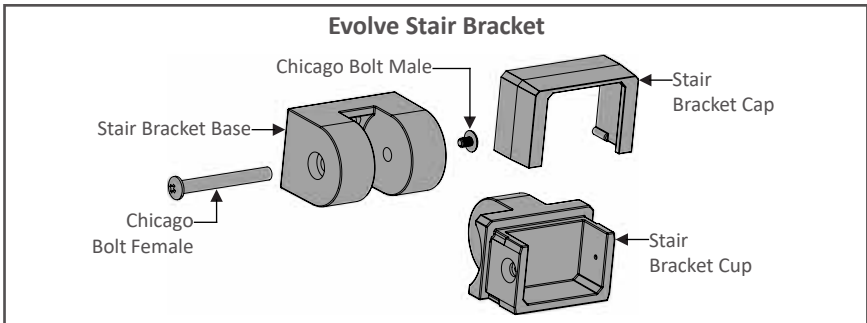
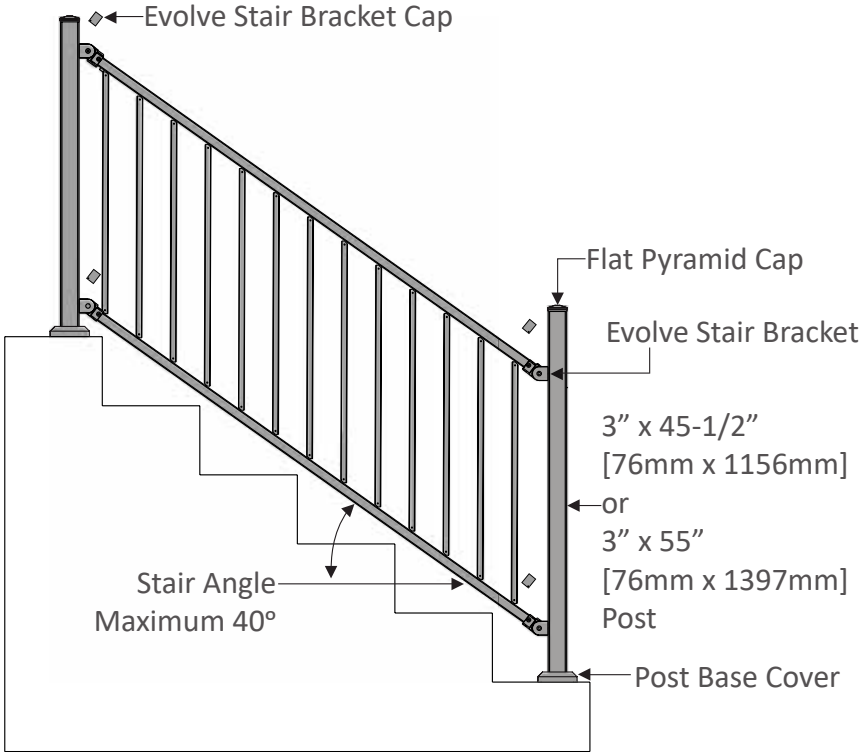
- Reference Post Base Cover, Bracket Cap & Flat Pyramid/  
Ball Cap instructions on pages 16 - 17.



## EVOLVE STAIR BRACKET

### AI<sup>13</sup> PLUS: Evolve Stair Bracket Installation Option

#### AI<sup>13</sup> PLUS Traditional Adjustable Panel



- Available Lengths: 8' [2438mm].
- Available Heights: 32" [813mm], 34" [864mm], 38" [965mm] & 40" [1016mm].
- Adjustable Angle Range: Maximum rake angle 40°.

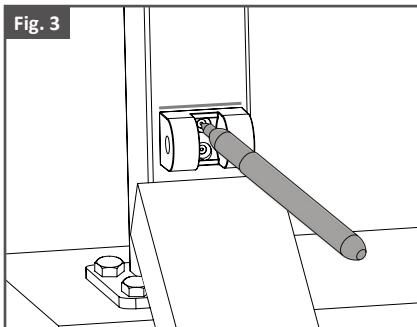
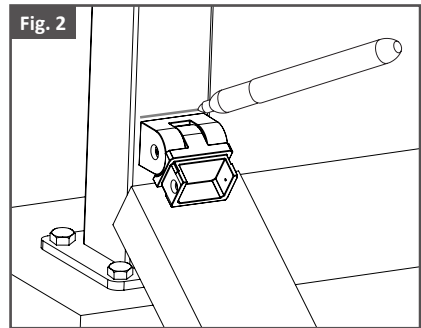
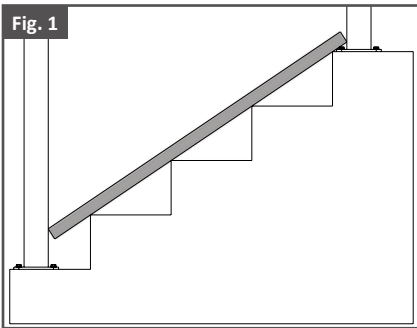
## EVOLVE STAIR BRACKET: BRACKET INSTALLATION

### Step 1: Bottom Bracket Installation

1. Position wood 2" x 4" [60mm x 102mm] between posts. As shown in Fig. 1.
2. Position bottom bracket centered flat on post & wood 2" x 4" [60mm x 102mm]. Use pencil to mark top edge of bracket location on post. As shown in Fig. 2.
3. Dis-assemble the bracket by removing the barrel and screw. Reference the bracket assembly on page 35.
4. Place bracket base on previous top edge mark. Center the base on the post and use pencil to add marks for two screw hole locations. As shown in Fig. 3.

#### Note:

- For best results, be sure bracket base is centered on post when making marks.

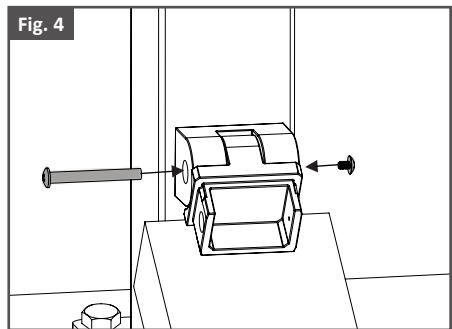
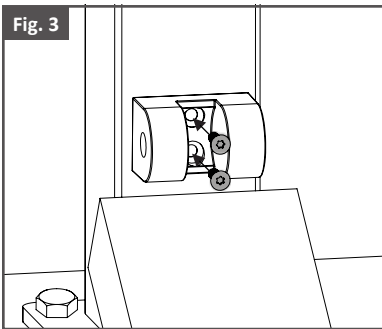
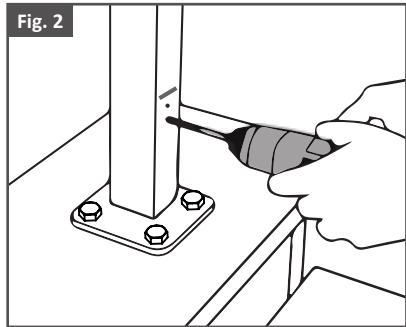
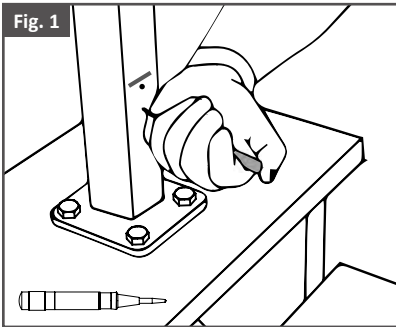


## Step 2: Bottom Bracket Installation Continued

1. Use Spring Punch to mark the holes. As shown in Fig. 1.
2. Drill out bracket hole with a 3/16" [5mm] drill bit. As shown in Fig. 2.
3. Use T-25 screws to attach the bracket base to the post. As shown in Fig. 3.
4. Keep bracket base centered as you install second screw. Insert then tighten barrel & screw to re-assemble bracket. As shown in Fig. 4.

### Tip:

- Lower Post may need to be unmounted to install bracket then remounted.
- Depending on the version of the Evolve Stair Bracket used, the screw holes may need to be pre-drilled with a 1/4" [6mm] drill bit.



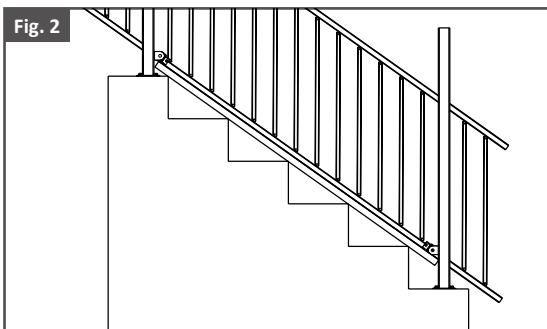
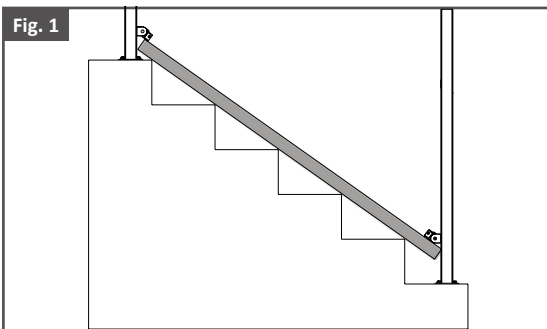
## Step 3: Top Bracket Installation

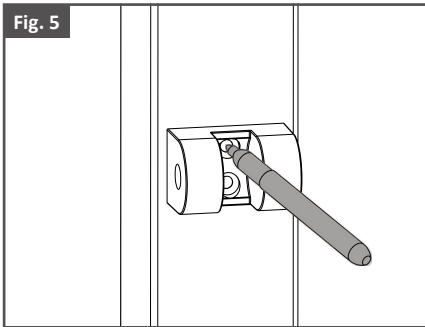
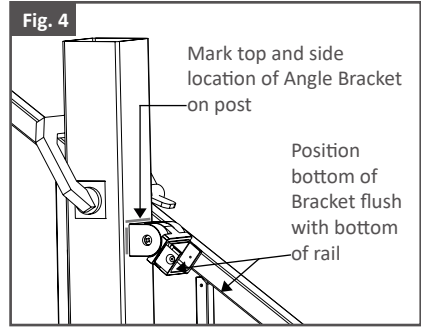
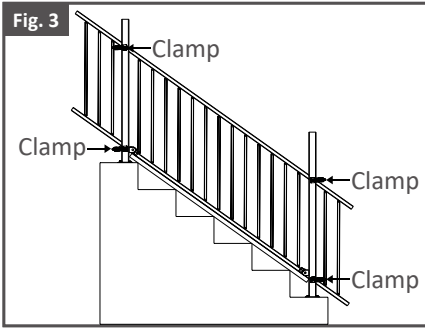
1. Position wood 2" x 4" [60mm x 102mm] on stairs in line with bottom brackets. As shown in Fig. 1.

2. Place panel on top of wood 2" x 4" [60mm x 102mm] next to bottom brackets. As shown in Fig. 2.
3. Rake the panel until balusters are parallel to the posts.
4. Clamp the panel to the post. Be sure to clamp at four touch points to keep panel in position. As shown in Fig. 3.
5. Position top bracket centered and flat on post.  
**Make sure inside bottom of bracket is flush with bottom of rail. As shown in Fig. 4.**
6. Use pencil to mark top edge of bracket location on post.
7. Dis-assemble the bracket by removing the barrel and screw.
8. Place bracket base on previous top edge mark. Center the base on the post and use pencil to add marks for two screw hole locations. As shown in Fig. 5.

**Note:**

- For best results, be sure bracket bases are centered on posts when making marks.





#### Step 4: Top Bracket Installation Continued

- Reference bottom bracket installation step 2 on page 35.

### **EVOLVE STAIR BRACKET: POST MOUNTING**

- Reference Post Mounting instructions on page 6.

#### **Note:**

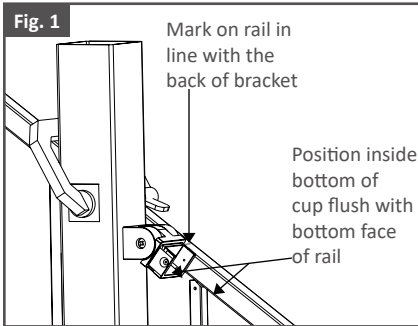
IT'S RECOMMENDED TO INSTALL BRACKETS ON TO POST BEFORE POST MOUNTING.

### **EVOLVE STAIR BRACKET: CUTTING DOWN PANEL**

#### **Step 1: Measure & Mark Panels Where Cuts Will Be Made**

1. Position wood 2" x 4" [60mm x 102mm] on stairs in line with bottom and top brackets.
2. Place the panel on top of wood 2" x 4" [60mm x 102mm] next to bottom brackets.
3. Have the panel raked and as close to final installation position as possible.

4. Confirm that bracket is parallel to the rail.
5. Place cut marking on rails in line with the back of bracket opening. Be sure bottom of bracket and bottom of rail are flush. As shown in Fig. 1.
6. Use speed square to ensure markings are perpendicular to panel.



### Step 2: Cut & Clean Panel

- Reference reference panel cutting & cleaning instructions step on page 12, step 3.

### Step 3: Apply Spray Paint To Cut Areas

- Reference reference cut panel spray painting instructions step on page 13, step 4.

## **EVOLVE STAIR BRACKET: PANEL INSTALLATION**

- Reference panel installation steps 3 & 4 on page 14 & 15.

### Tip:

- Be sure to confirm that the raked panel is level.

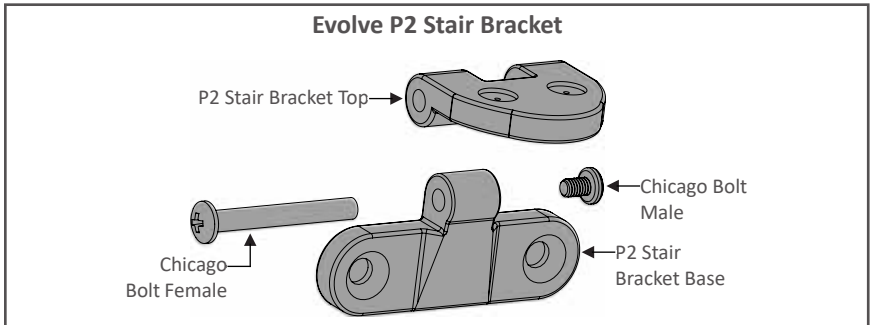
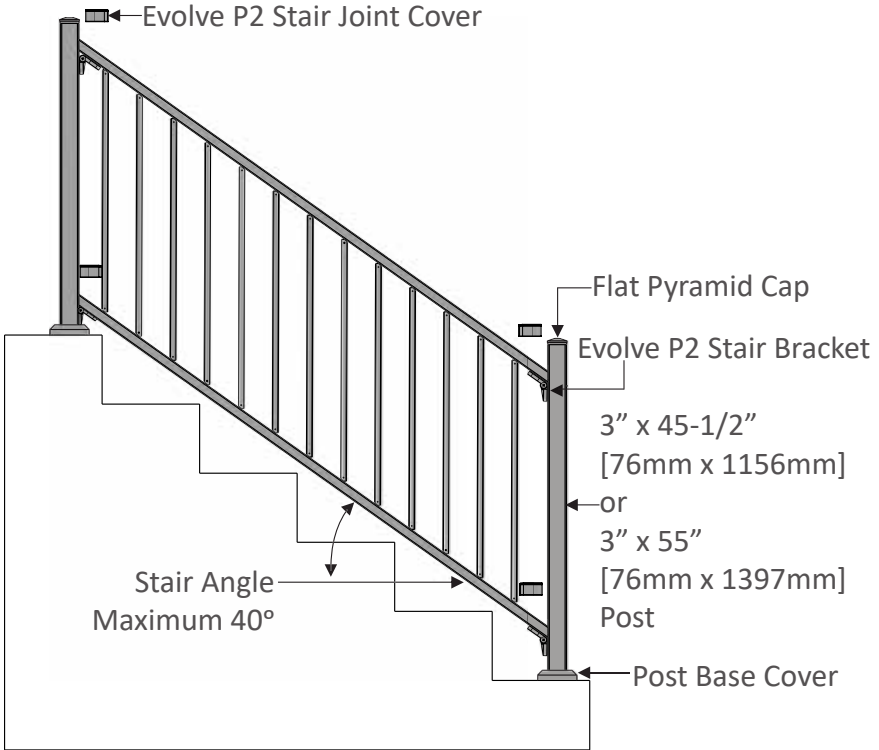
## **EVOLVE STAIR BRACKET: POST BASE COVER, BRACKET CAP & FLAT PYRAMID/BALL CAP INSTALLATION**

- Reference Post Base Cover, Bracket Cap & Flat Pyramid/Ball Cap instructions on pages 16 - 17.

## EVOLVE P2 STAIR BRACKET

### AI<sup>13</sup> PLUS: Evolve P2 Stair Bracket Installation Option

#### AI<sup>13</sup> PLUS Traditional Adjustable Panel

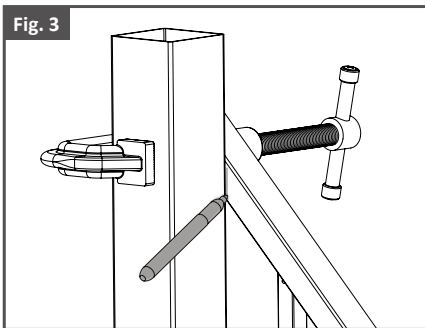
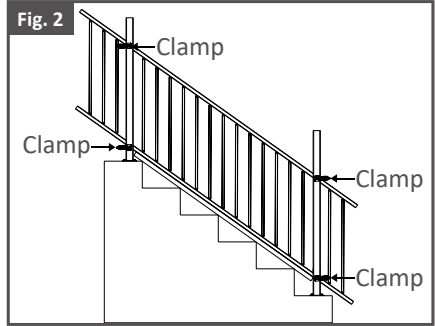
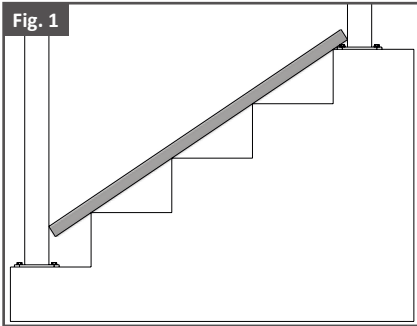


- Available Lengths: 8' [2438mm].
- Available Heights: 32" [813mm], 34" [864mm], 38" [965mm] & 40" [1016mm].
- Adjustable Angle Range: Maximum rake angle 40°.

## EVOLVE P2 STAIR BRACKET: CUTTING DOWN PANEL

### Step 1: Measure & Mark Panels Where Cuts Will Be Made

1. Position wood 2" x 4" [60mm x 102mm] between posts. As shown in Fig. 1.
2. Place the panel on top of wood 2" x 4" [60mm x 102mm] next to posts.
3. Rake the panel until balusters are parallel to the posts and level.
4. Clamp the panel to the post. Be sure to clamp at four touch points to keep panel in position. As shown in Fig. 3.
5. Mark cut points on top and bottom rails in line with the front face of the post. As shown in Fig. 3.



### Step 2: Cut & Clean Panel

- Reference reference panel cutting & cleaning instructions step on page 12, step 3.



### Step 3: Apply Spray Paint To Cut Areas

- Reference reference cut panel spray painting instructions step on page 13, step 4.

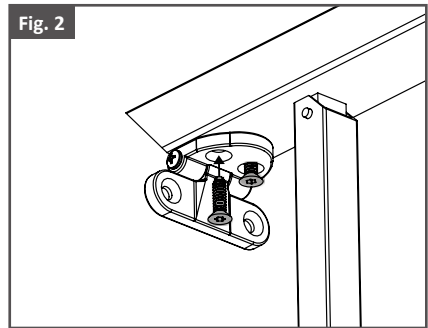
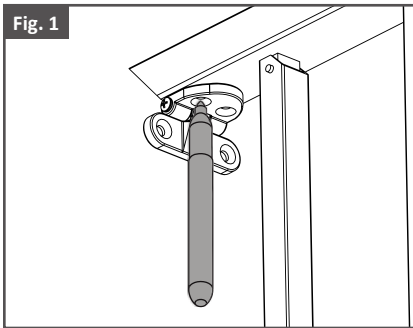
## EVOLVE P2 STAIR BRACKET: PANEL & BRACKET INSTALLATION

### Step 1: Mount P2 Stair Brackets Onto Panel

1. Position P2 Stair Bracket on the bottom face of the rails. Be sure to have back face of brackets and rails flush with rail end cut.
2. Using an pencil, mark bracket screw holes. As shown in Fig. 1.
3. Pre-drill bracket screw holes on rail using a 3/16" [5mm] drill bit.
4. Secure bracket to rail with provided T-25 Drive Thread-Cutting Screws. Use low speed setting on drill. As shown in Fig. 2.

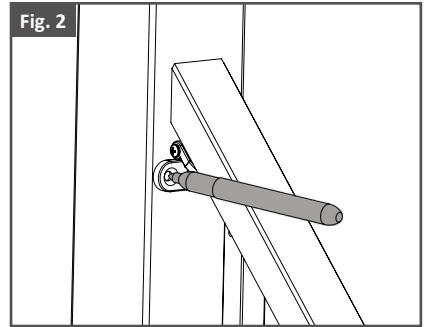
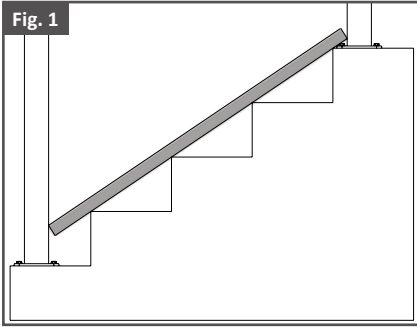
#### Tip:

- Depending on the version of the Evolve P2 Stair Bracket used, the screw holes may need to be pre-drilled with a 1/4" [6mm] drill bit.



### Step 2: Mark Bracket Hole Locations Onto Posts

1. Position wood 2" x 4" [60mm x 102mm] between posts. As shown in Fig. 1.
2. Position cut panel with mounted brackets on top of wood 2" x 4" [60mm x 102mm] and in final install position.
3. Use a pencil to add marks onto post for bracket screw hole locations. As shown in Fig. 2.

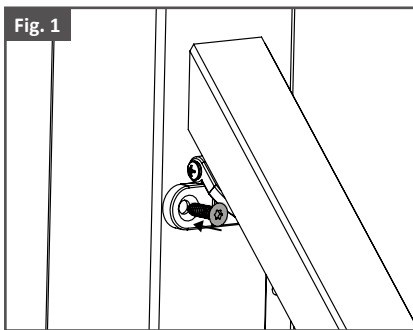


### Step 3: Mount Panel Onto Posts

1. Pre-drill holes for screws using a 3/16" [5mm] drill bit.
2. Secure brackets into pre-drilled bracket holes on post with provided T-25 Drive Thread-Cutting Screws. As shown in Fig. 1.

**Tip:**

- Use a bit extender for an easier drilling process.



### **EVOLVE P2 STAIR BRACKET: POST BASE COVER, BRACKET CAP/ P2 STAIR JOINT COVER & FLAT PYRAMID/BALL CAP INSTALLATION**

- Reference Post Base Cover, Bracket Cap & Flat Pyramid/Ball Cap instructions on pages 16 - 17.
- Reference Joint Cover instructions on pages 26 & 27. The P2 Stair Joint Cover will need to be cut at an angle.

## CARE & MAINTENANCE

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### Care And Maintenance Of Fortress Building Products Powder-Coated Products And Surfaces:

- Immediately after installation of your Fortress Building Products, clean powder-coated products and surfaces with a solution of warm water and non-abrasive, pH neutral detergent solution. Surfaces should be thoroughly rinsed after cleaning to remove all residues. All surfaces should be cleaned using a soft cloth or sponge.
- Ensure construction materials such as concrete, plaster, and paint splashes are removed immediately before they have a chance to dry. Failure to remove these materials may cause damage to the powder-coated surfaces.
- The frequency of cleaning depends in part on the standard of appearance and also the requirements to remove deposits that may cause damage to the powder coating after prolonged exposure. Fortress recommends cleaning in three to four monthly intervals all products and powder-coated surfaces. In areas where higher traffic, increased atmospheric substances, or other effects may occur, the time period between cleanings should be increased to monthly intervals.
- **WARNING: DO NOT use strong solvents such as thinners, or solutions containing chlorinated hydrocarbons, esters, or ketones. Abrasive cleaners or cutting compounds should not be used.**

## WARRANTY

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To obtain and review a copy of the warranty, please go to: <https://Fortressbp.com/warranties>. You can also contact: (844) 909-1999 or write to: Fortress Building Products Warranty, 1720 N 1st St, Garland, TX 75040 to obtain a copy of the warranty.



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