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## 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 fencing 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.

#### Before You Begin

Contact your local Building Code Department for required permits and laws regarding your fence project.

If applicable, also contact your Home Owners Association for rules and regulations regarding fence installations in your neighborhood.

**Call 811 before you dig post holes to locate and identify any buried utilities.**

#### Note

- When cutting Fortress Fencing, 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.
- 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 Fence.

#### 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



Fortress  
Touch-up Paint



Bit  
Extender



Socket  
Set



Nut Driver Bits: 5/16"  
[8mm], [13mm]



#2 Phillips  
Head Bit



Drill Bits: 5/16"  
[8mm], 3/16" [5mm]



Drill



Pliers



Ground  
Stakes



String



Pencil



Spring  
Punch



Rubber  
Mallet



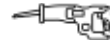
Wheelbarrow



Spade  
Shovel



Concrete/  
Gravel



Reciprocating Saw  
or Portable Bandsaw



Post Hole  
Digger

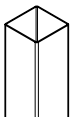


Tin  
Snips

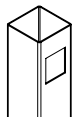
## A2 FENCE OPTIONS

### Posts

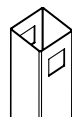
- A2 Fence posts are available as 2-1/2" [64mm] and 3" [76mm] square.
- A2 Fence posts are available as 0.125" [3mm] and 0.06" [1.5mm] thicknesses.
- A2 Fence posts are available in lengths of and 72" [1828mm], 78" [1981mm], 84" [2134mm], and 96" [2438mm].
- A2 Fence posts, except for blank posts, are pre-punched.



Blank Post



End Post



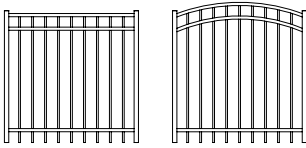
Line Post



Corner Post

## Gate styles

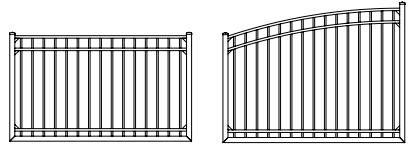
- Available in all panel styles and custom gate sizes.



### Flat & Arched Gates

Walk Gates

4' [1219mm] & 5' [1524mm] opening



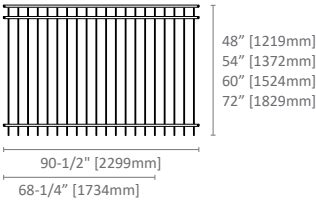
### Standard Welded Gate Options

Drive Gates

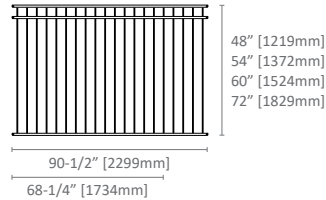
6' [1829mm] opening

## Panel Styles

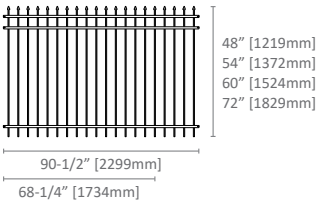
- Available in 2, 3, and 4 rail configurations.
- Rail** : 1-1/2" [38mm] | **Picket**: 3/4" [19mm]  
**Gate Upright**: 2" [51mm] | **Air Space**: 3-3/4" [95mm].



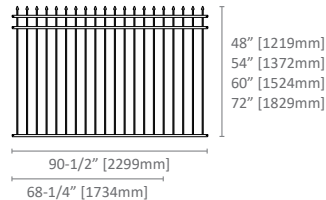
**Flat Top**  
3 Rail Only



**Flat Top/Flat Bottom**  
2, 3, & 4 Rail options

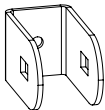


**Spear Point**  
3 rail only



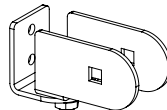
**Pressed Spear/Flat Bottom**  
3 rail only

## Bracket Options



### A2 Flush Mount Bracket

Used to attach  
a panel to structure



### A2 Swivel Mount Bracket

Used to attach a panel to either a  
structure or if a panel is installed at an angle

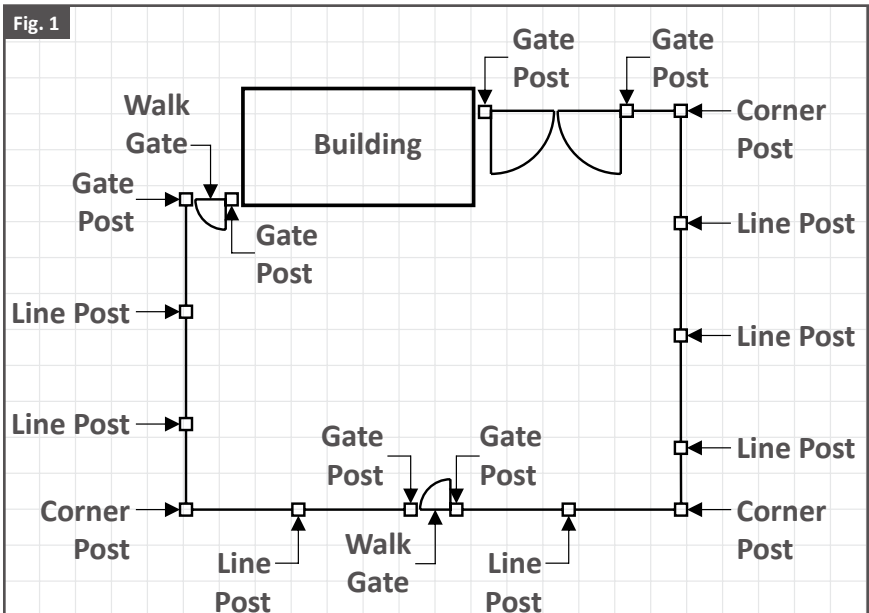
## FENCE LAYOUT

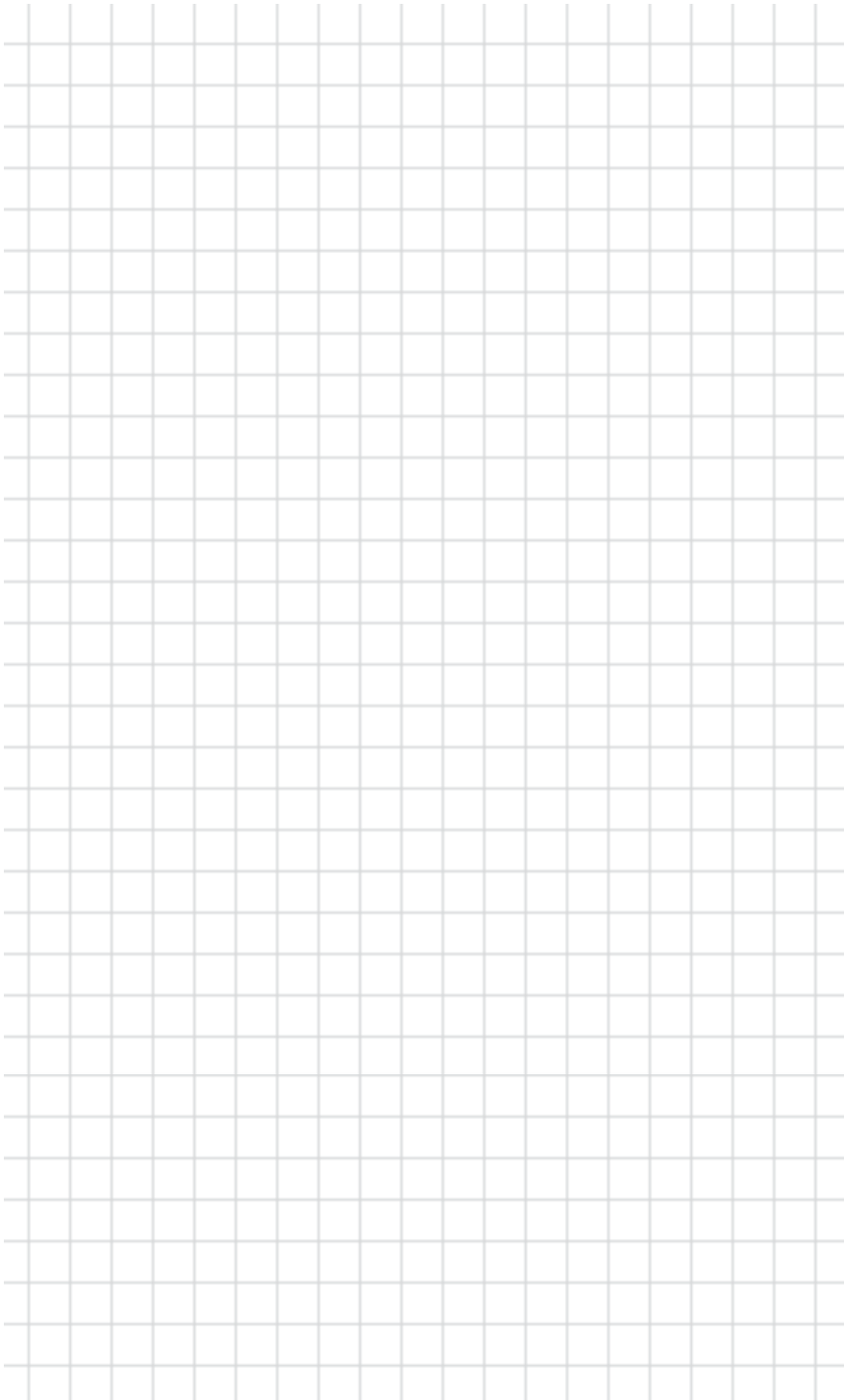
### Step 1: Sketch Layout of Fence Perimeter

1. Identify the property line and determine the perimeter of your fence project.
2. Using a tape measure determine the length of each fence run.
3. A2 Fence is easiest to install when starting from a corner or end. If no gates are used, only one panel should need to be cut in a fence run.
4. Determine the location of gates and mark on drawings. Adjustments to panel length are required at gates.

#### Note:

- Post maximum on center spacing:  
6' [1829mm] Panel:  
    **2-1/2" [64mm] Post:** 69-1/4" [1759mm].  
    **3" [76mm] Post:** 69-3/4" [1772mm].  
8' [2438mm] Panel:  
    **2-1/2" [64mm] Post:** 91-9/16" [2326mm].  
    **3" [76mm] Post:** 92-1/16" [2338mm].



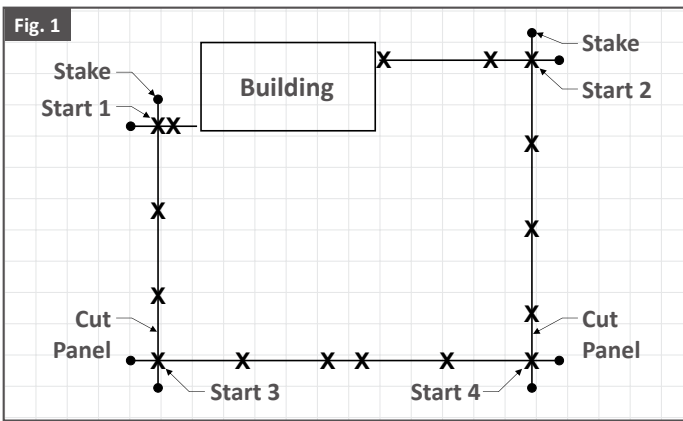


## Step 2: Use Stakes & String to Create Perimeter

1. Using the fence layout sketch as a guide, locate a corner or reference point along each fence run and mark it with a stake.
2. Use a string stretched between stakes located at the end of each fence run, and layout the perimeter of the fence project.
3. From starting points, use a tape measure to mark post hole locations.
4. Layout fence so that minimal panel cuts are required; remember to allow for gates.
5. Confirm that corners form 90° angles.

### Tip:

- Be sure to follow on post maximum center dimensions (reference step 1).



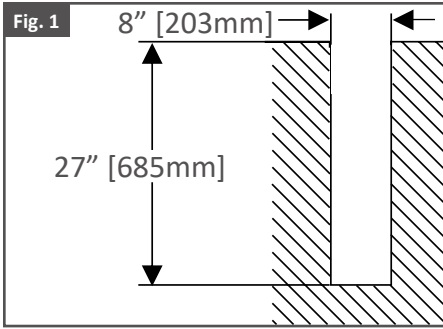
## Step 3: Dig Post Holes

1. Use the Post Hole Digger to dig the holes to be 27" [685mm] deep and 8" [203mm] in diameter. As shown in Fig. 1.
2. Keep Post Hole Digger straight and plumb.

### Note:

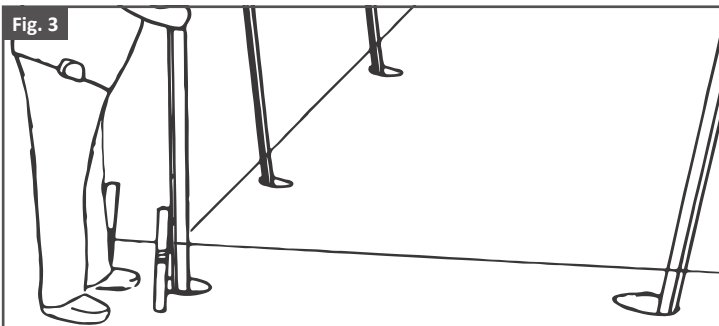
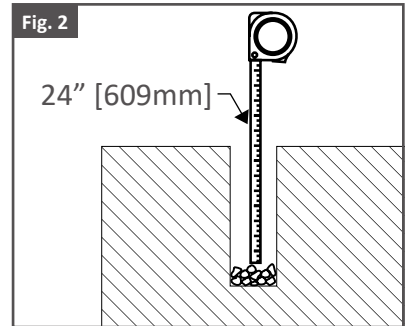
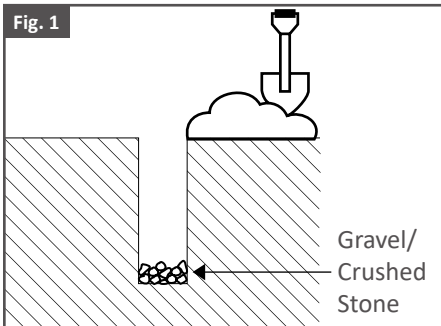
- Post holes should be at least 8" [203mm] in diameter, however you should always consult local code requirements for exact requirements.





#### Step 4: Set Posts

1. Fill holes with 3" [72mm] of pea gravel or crushed stone to allow for drainage. As shown in Fig. 1.
2. Compact the gravel before setting post.
3. Use tape measure to check depth. A2 Fence posts are designed to be buried 24" [609mm] deep. As shown in Fig. 2.
4. Use the string as a guide when placing posts in each hole. As shown in Fig. 3.



## POST & PANEL INSTALLATION

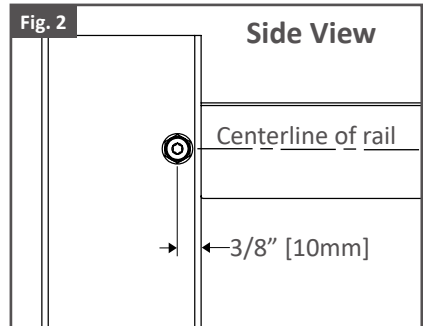
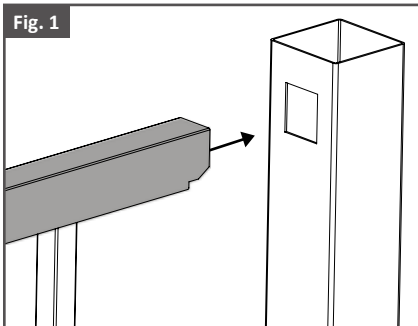
\*If Required, reference pages 18 - 22 for panel cutting and notching instructions.

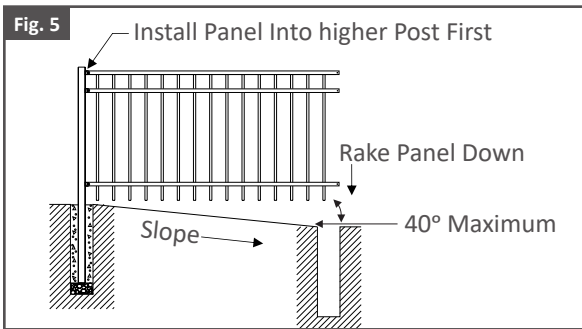
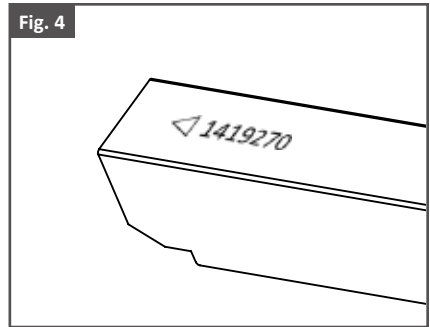
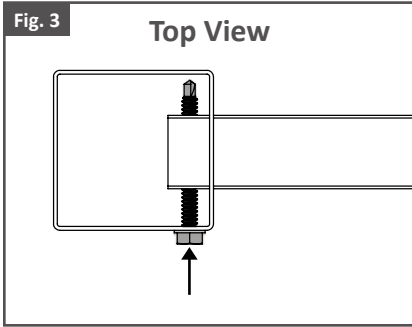
### Step 1: Install Panels Into Posts

1. Starting with the corner or end post, insert panel rails into the pre-punched post holes. As shown in Fig. 1.
2. Continue this process for remaining posts and panels in fence run.
3. Using a spring punch, mark self-drilling screw positioning onto post. Reference Fig. 2.
4. Using a 5/16" [8mm] nut driver, fasten M6 X 59.5mm self-drilling screws to the panel and post. As shown in Fig. 3.

### Tip:

- If a panel is being installed on slope, be sure to confirm the rake direction of the panel before fastening screws. Look for arrow on top rail indicating direction of rake. As shown in Fig. 4.
- Panels can be raked up to a 40° angle. As shown in Fig. 5.
- Use Tin Snips to modify notch as needed.
- Install screws into both ends of a panel and confirm its level before moving to the next panel in the fence run.
- **DO NOT** pour concrete and set posts in this step.



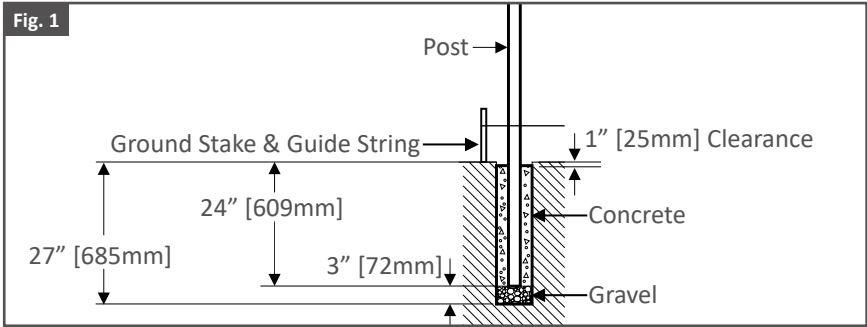


## Step 2: Pour Concrete

1. Confirm post hole depth.
2. Remove or add gravel to set post hole depth at 24" [609mm].
3. Starting with the corner or end post, use a level to confirm that the post is plumb and is aligned with the guide strings.
4. Fill the post hole with concrete to within 1" [25mm] of the surface of soil. As shown in Fig. 1.
5. Continue this process with the remaining posts in the fence run.

### Tip:

- Allow concrete to cure for a minimum of 24 hours before installing brackets.
- As the concrete cures, be sure to keep posts placed along guide strings & continuously check that they are plumb as well as in line with the next post.



## BRACKET & PANEL INSTALLATION: A2 FLUSH MOUNT BRACKET

\*If Required, reference pages 18 - 21 for panel cutting instructions.

### Bracket Details:

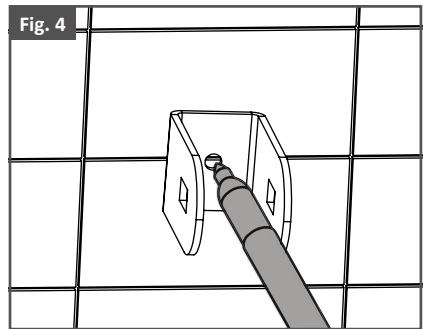
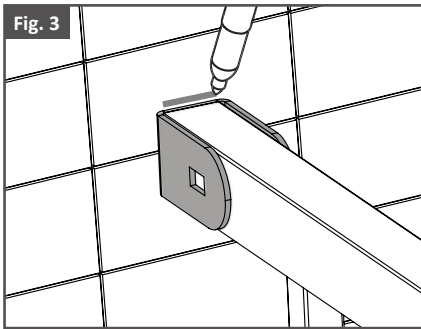
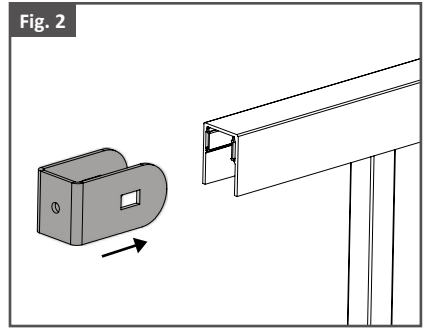
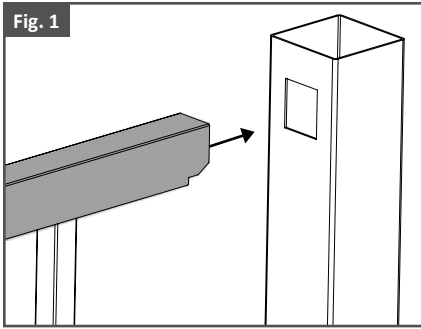
- This bracket is used at the end of a fence run to attach A2 Fence panels to a structure.
- Panel notching is **NOT REQUIRED** when installing panel onto a bracket.

### Step 1: Mark bracket Locations On Surface

1. Insert panel rails into pre-punched post holes. As shown in Fig. 1.
2. Insert brackets on face of panel rails touching surface of structure. As shown in Fig. 2.
3. Use pencil to mark top edge of bracket locations on surface of structure. As shown in Fig. 3.
4. Remove the panel and brackets.
5. Place brackets on previous top edge mark. Use a pencil to add a mark for the screw hole location. As shown in Fig. 4.

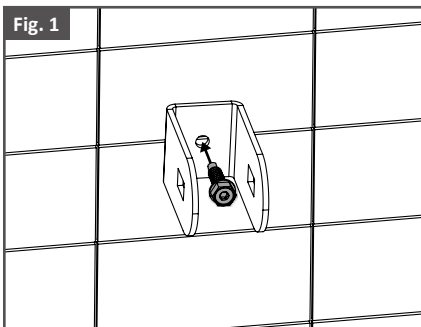
### Tip:

- Be sure to keep the post and panel level and in final installed position when marking bracket locations.



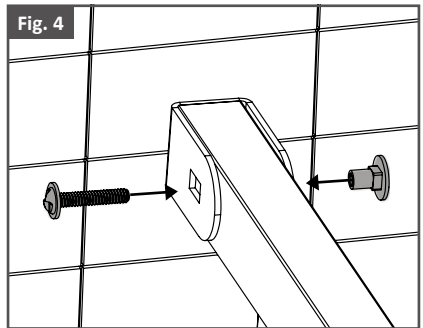
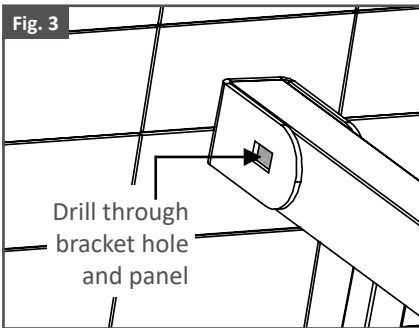
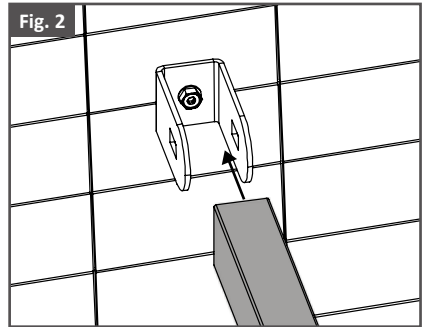
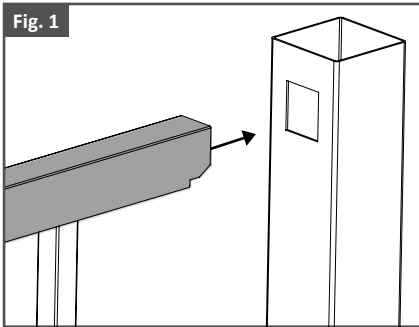
## Step 2: Pre-Drill and Install Brackets

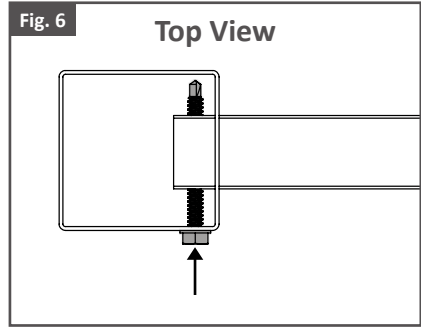
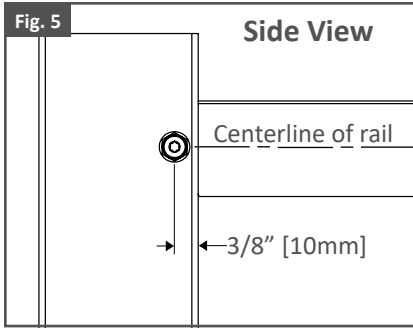
1. Pre-drill bracket holes with a 3/16" [5mm] drill bit.
2. Mount brackets onto structure using structure specific screws (wood screw, metal screw, or concrete screw). As shown in Fig. 1.



### Step 3: Install Panel Onto Bracket & Post

1. Slide panel to the inside of mounted brackets and into pre-punched post holes. As shown in Fig. 1 & 2.
2. If panel was cut to length, a 5/16" [9mm] hole must be drilled into the rails through the bracket screw holes. As shown in Fig. 3.
3. Secure the panel to the bracket by using a screw & bolt. As shown in Fig. 4.
4. Using a spring punch, mark self-drilling screw positioning onto post. Reference Fig. 5.
5. Using a 5/16" [8mm] nut driver, fasten M6 X 59.5mm self-drilling screws to the panel and post. As shown in Fig. 6.





## BRACKET & PANEL INSTALLATION: A2 SWIVEL MOUNT BRACKET

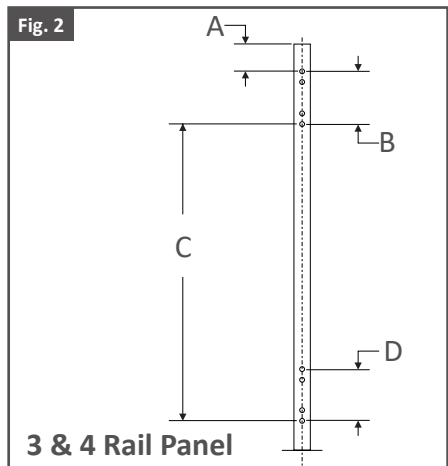
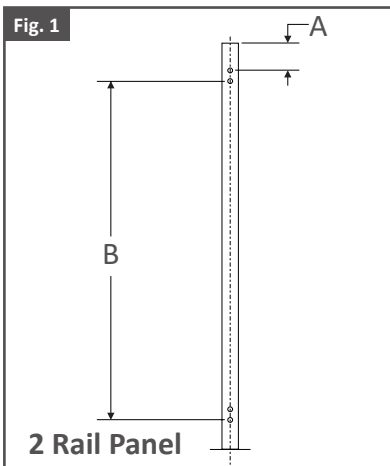
\*If Required, reference pages 18 - 21 for panel cutting instructions.

### Bracket Details:

- This bracket is used at the end of a fence run to attach A2 Fence panels to a structure or if a panel is installed at an angle.
- Panel notching is **NOT REQUIRED** when installing panel onto a bracket.

### Step 1: Mark Bracket Hole Locations

1. Mark the centerline of each post with a pencil.
2. Take measurements used in Fig. 3 to mark bracket hole locations onto posts.



**Fig. 3****Bracket Hole Locations**

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

**2 Rail Panel**

	A	B
<b>FT-FB</b>	1-7/16" [37mm]	47-1/4" [1200mm]

**3 Rail Panel**

	A	B	C
<b>FT</b>	1-7/16" [37mm]	7-3/4" [197mm]	35-1/2" [902mm]
<b>FT-FB</b>	1-7/16" [37mm]	7-3/4" [197mm]	51-1/2" [1308mm]
<b>SP</b>	1-7/16" [37mm]	7-3/4" [197mm]	42-1/2" [1080mm]
<b>PSFB</b>	1-7/16" [37mm]	7-3/4" [197mm]	51-1/2" [1308mm]

**4 Rail Panel**

	A	B	C	D
<b>FT-FB</b>	1-7/16" [37mm]	7-3/4" [197mm]	63-1/2" [1613mm]	7-3/4" [197mm]

\*Bottom surface of the bottom Rail has a min. spacing of 2" [50mm] above ground surface.

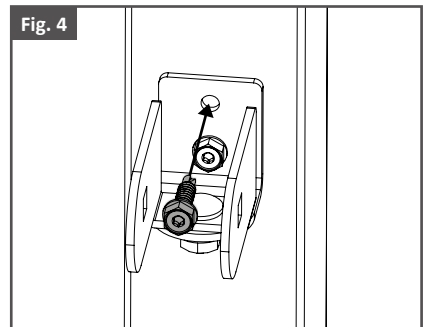
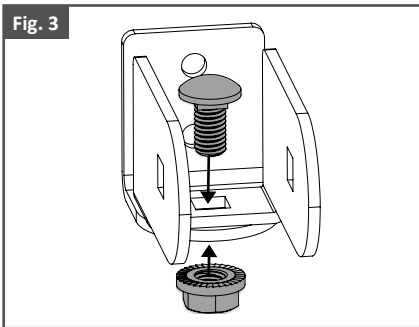
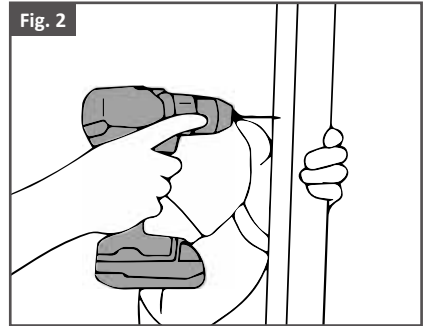
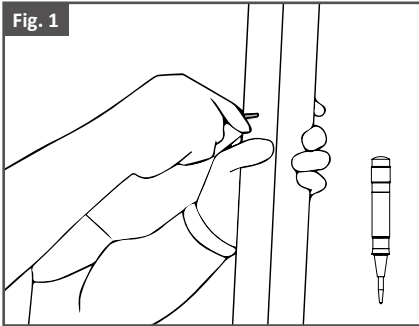
**Step 2: Pre-Drill and Install Brackets****Tip:**

- **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. If required, Insert bolt and nut to assemble bracket. As shown in Fig. 3.
  4. Attach bracket to the posts with supplied Hex Head Self-drilling screws. 10mm Nut Driver or T-25 Bit can be used to install screws. Use low speed setting on drill. As shown in Fig. 4.



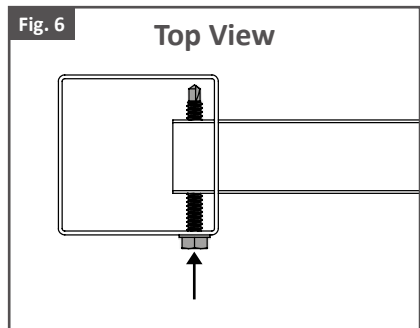
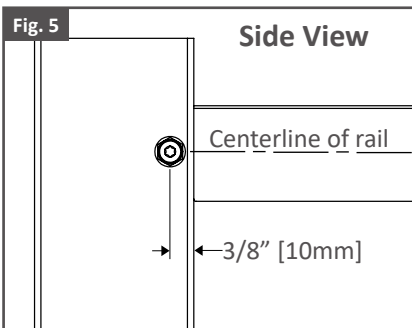
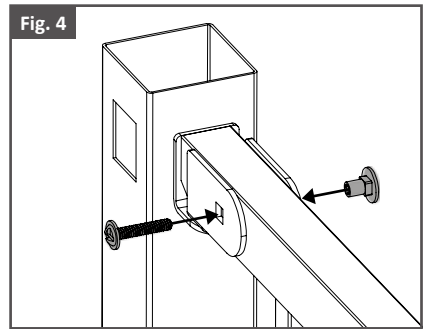
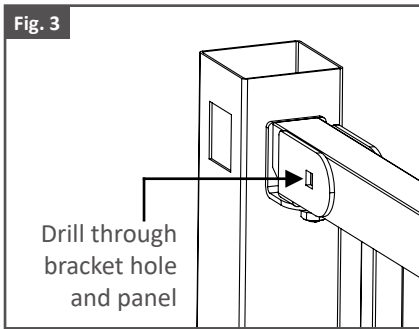
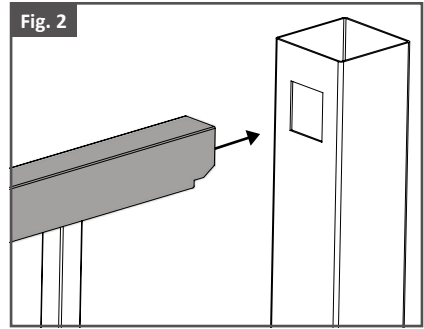
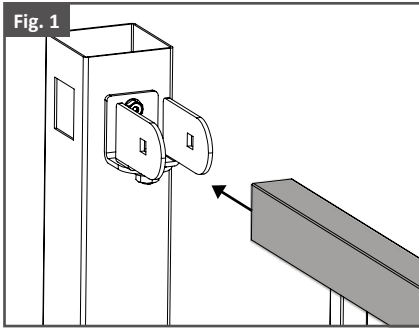
**Tip:**

- **DO NOT** over tighten screws.
- Remove all metal shavings from posts before brackets are installed to post to prevent stains.
- If installing bracket onto a structure surface, reference pre-drill and install instruction on page 12, step 2.



**Step 3: Install Panel Onto Bracket & Post**

1. Slide panel into the inside of mounted brackets and/or into pre-punched post holes. As shown in Fig. 1 & 2.
2. If panel was cut to length, a 5/16" [9mm] hole must be drilled into the rails through the bracket screw holes. As shown in Fig. 3.
3. Secure the panel to the bracket by using a screw & bolt. As shown in Fig. 4.
4. Using a spring punch, mark self-drilling screw positioning onto post. Reference Fig. 5.
5. Using a 5/16" [8mm] nut driver, fasten M6 X 59.5mm self-drilling screws to the panel and post. As shown in Fig. 6.



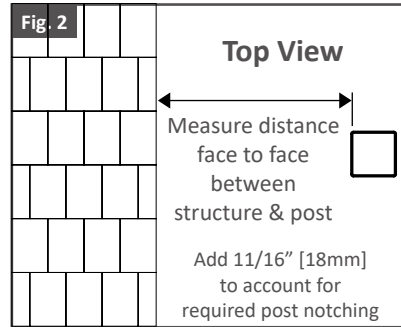
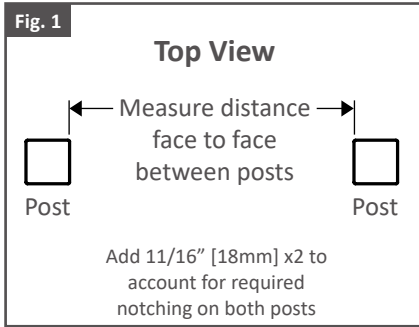
## PANEL CUTTING

### Step 1: Measure The Panel Opening Length

1. Measure the distance between two posts surfaces (face to face) or a post and structure surface (face to face). As shown in Fig. 1 & 2.
2. Add  $11/16'' [18\text{mm}]$  to the length for each end of a panel that will be installed and inserted into a post. This will account for the required notching.

**Tip:**

- Confirm that the length between each post is equal.
- Always design your fence layout (page 6) to minimize the number of panels that need to be cut.

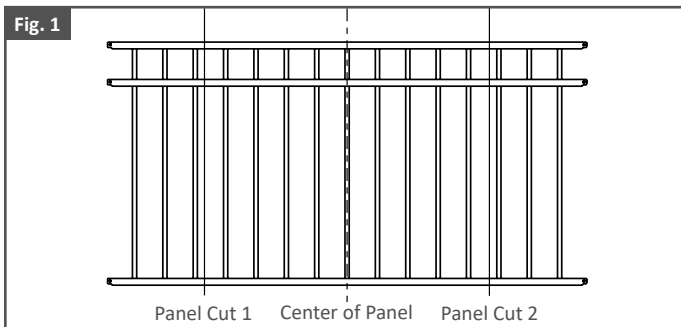


**Step 2: Mark Panel with Cut Points**

1. Use panel opening length found in step 1 above as cut length.
2. Use a tape measure to measure from center of panel and mark cut point of first end of panel. As shown in Fig. 1.
3. Use a Speed Square and pencil to mark cut points.
4. Repeat for second end of panel.

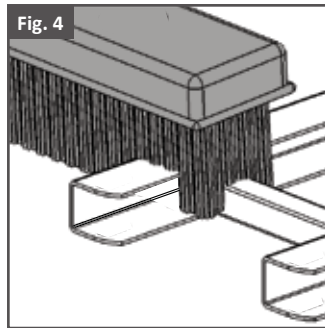
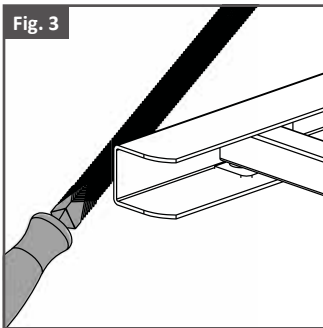
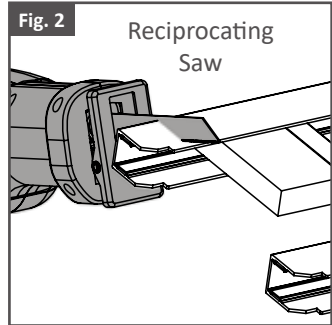
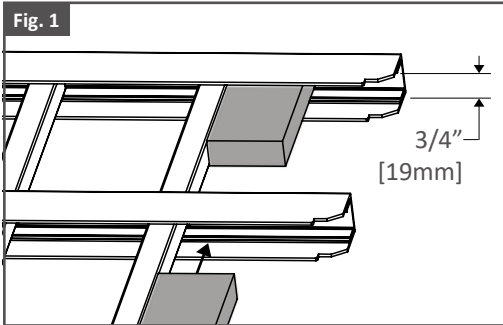
**Note:**

- When cutting a panel to length, it is recommended that an equal amount be cut from each end of panel. By doing so, this will alter the picket spacing which can affect meeting the national pool code.



### Step 3: Cut & Clean Panels

1. Insert wood blocks into panel for added support. Internal spacing of panel is 3/4" [19mm]. As shown in Fig. 1.
2. Cut Panels using a Reciprocating Saw. As shown in Fig. 2.
3. Use file to smooth cut edges. As shown in Fig. 3.
4. Remove any metal shavings and dust with a brush or rag. As shown in Fig. 4.
5. Make sure surfaces to be painted are clean.

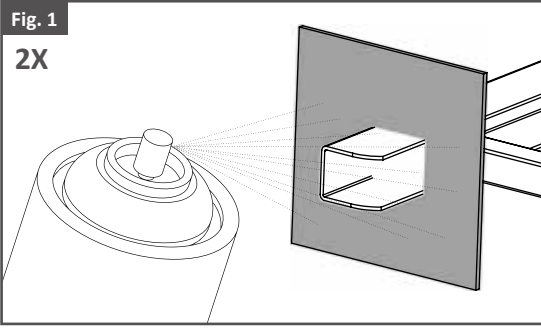


### Step 4: Apply Spray Paint To Cut Areas

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.

Fig. 1

2X



## NOTCHING & TRIMMING RAILS

### Step 1: Cut Rail Ends & Spray Paint Over Cuts

1. Make cut marks on rail. Reference Fig. 1 for dimensions.
2. Use tin snips to make the cuts. As shown in Fig. 2.
3. Use a file to clean cuts.
4. Using a piece of cardboard as a mask, apply the 1<sup>st</sup> coat of Fortress zinc based touch-up paint. As shown in Fig. 3.
5. Allow to dry before applying 2<sup>nd</sup> coat of paint.
6. Apply the 2<sup>nd</sup> coat of Fortress zinc based touch-up paint.
7. Allow to dry and install.

#### Note:

- Cut rail ends must be notched to fit in post.

Fig. 1

#### Side View

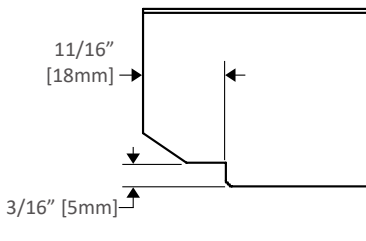


Fig. 2

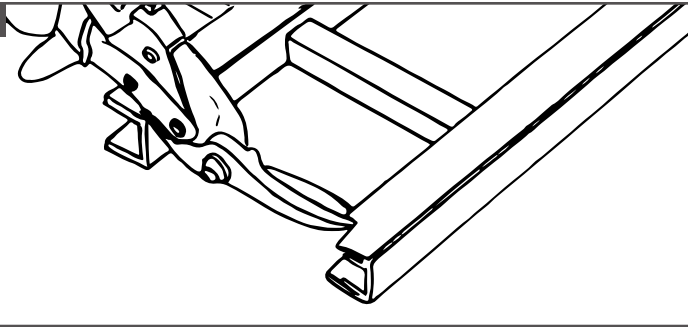
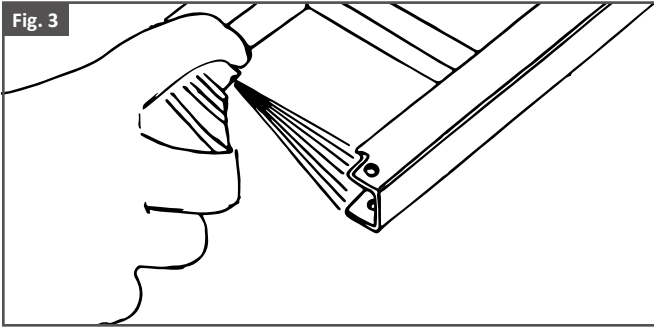


Fig. 3

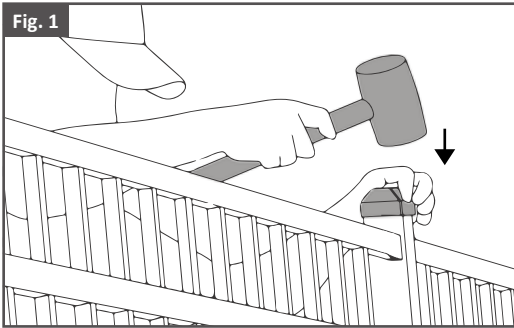


## PRESSED DOME CAP INSTALLATION

### Step 1: Install Pressed Dome Cap

1. Pressed Dome Caps are press fit into place.
2. Center the Pressed Dome Cap on the post. Using a Rubber Mallet, gently tap the cap onto to post. As shown in Fig. 1.

Fig. 1



## 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
- **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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