



# TABLE OF CONTENTS

---

## English

Introduction.....	3
Installation.....	5
Post Mounting.....	5
Bracket Installation.....	7
Cutting Down Panel.....	9
Panel Installation.....	11
Aluminum Angle Bracket Installation.....	17
Tensioning Cable.....	26
Care & Maintenance/Warranty.....	28

## INTRODUCTION

---

### 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.

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

#### Note

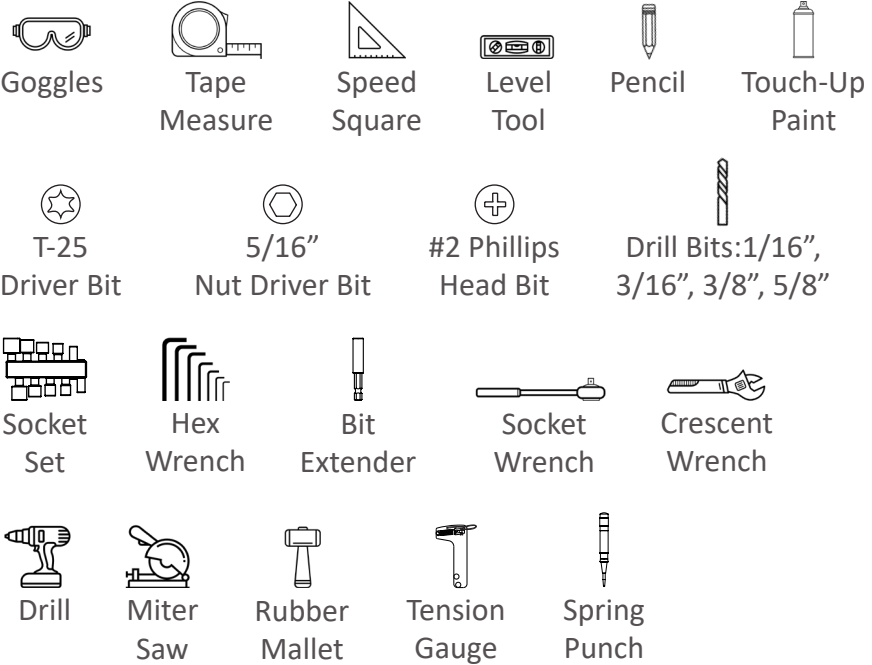
- When cutting AVANT railing, it is very important to complete the following at cut points:
- Remove all metal shavings from the cut area.
- File any sharp edges left by cutting. Thoroughly wipe and remove any filings, grime, or dirt from the railing.
- Apply two coats of Fortress zinc based touch-up 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

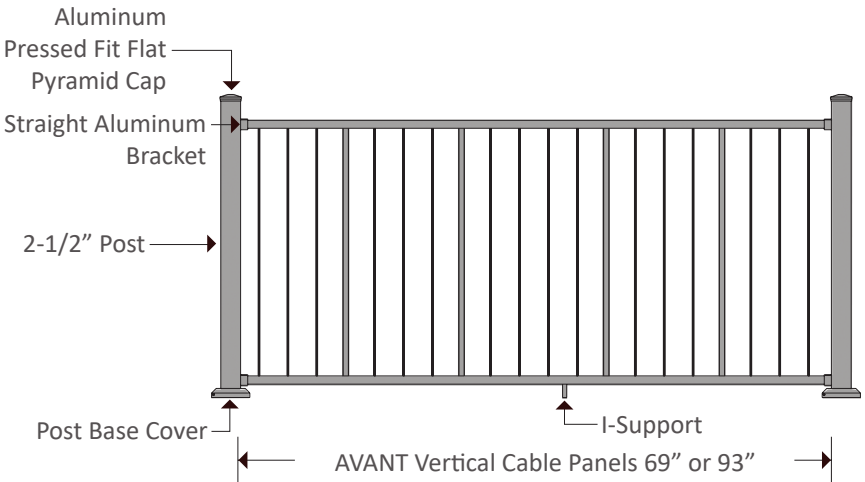
- Always use the lowest speed setting on drill.
- To reduce chance of bit breakage, start tightening with drill on low torque setting and work up until screw is secured.

**Tip: Pre-drill holes with 3/16" [5mm] drill bit.**

## Required Tools



## AVANT Vertical Cable Installation



Post Configurations		
Avant Panel Height	Avant Panel	
	Installed Panel Height	Required Post
32-1/2"	36"	39-1/2"
38-1/2"	42"	43-1/2"

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

## POST MOUNTING

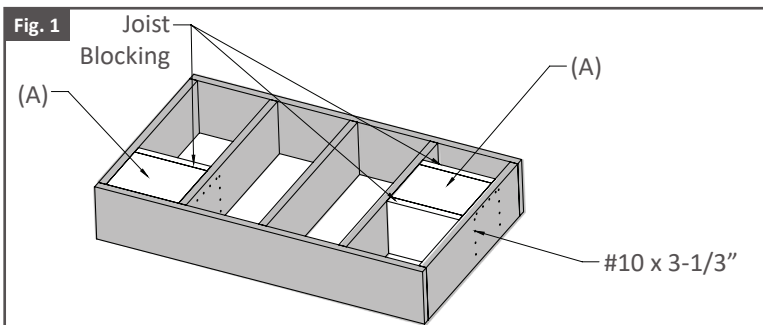
\*If using Fortress Evolution Framing, contact Fortress for instructions.

### Note:

**It's recommended to install brackets into post before Post Mounting. Reference page 7 for Bracket Installation steps.**

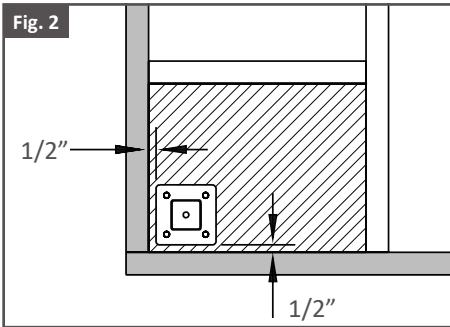
### Step 1: Install Wood Blocks

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



## Step 2: Position Base Plate

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

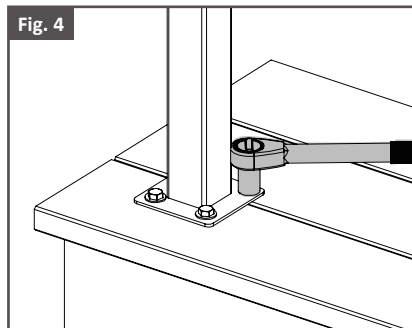
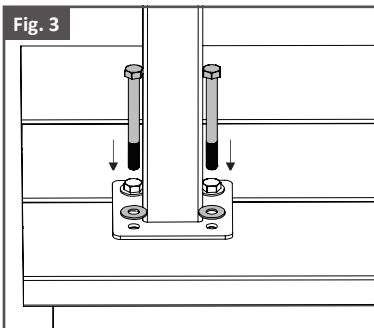


## Step 3: Mount Posts

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

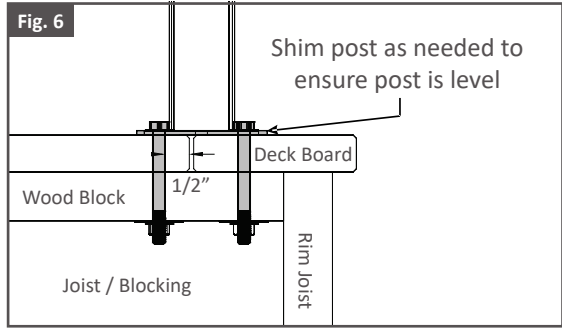
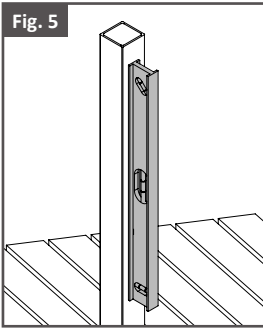
### Note:

- Use only 3/8" Hex Head Galvanized Bolts. Lag Screws should **NOT** be used. Secure each post with four bolts.
- 8' panel maximum post spacing is 93-1/4".
- 6' panel maximum post spacing is 69-1/4".
- Do not exceed the maximum post spacing.



## Step 4: Check Mounted Posts

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



## BRACKET INSTALLATION

### Step 1: Mark Bracket Hole Locations

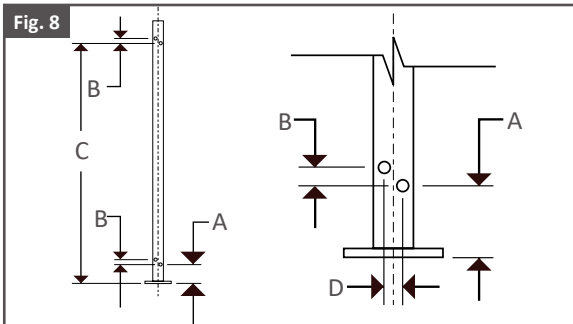
1. Mark the centerline of each post with a pencil.
2. Take measurements used in Fig. 7 and 8 to mark bottom and top bracket hole locations onto posts.

**Fig. 7** **Bracket Hole Locations**

Pre-Drill Dimensions: Pre-Drilling with a 3/16" drill bit is required

A*	B	C	D
4"	1/2"	35"	11/16"
4"	1/2"	41"	11/16"

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



## 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. 9.
  2. Pre-drill bracket holes with a 3/16" drill bit. As shown in Fig. 10.
  3. Attach Bracket to the posts with supplied T-25 thread-cutting screws. Use two screws per bracket. Use low speed setting on drill. As shown in Fig. 11.
  4. Once top and bottom brackets are installed, remeasure bracket spacing to confirm dimensions used in Fig. 7 and 8 of step 1. As shown in Fig. 12.
  5. Remove all metal shavings from deck, post base cover, post, and panel before bracket is screwed to post to prevent corrosion.

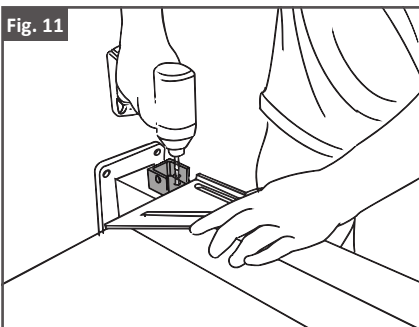
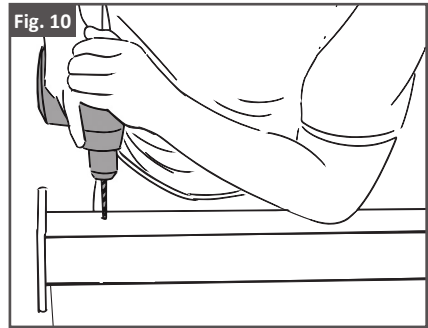
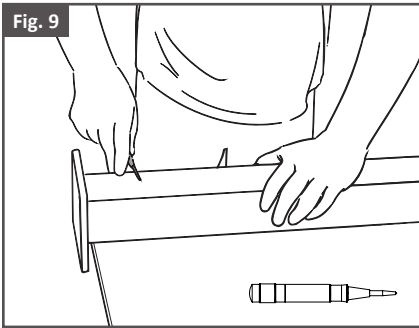
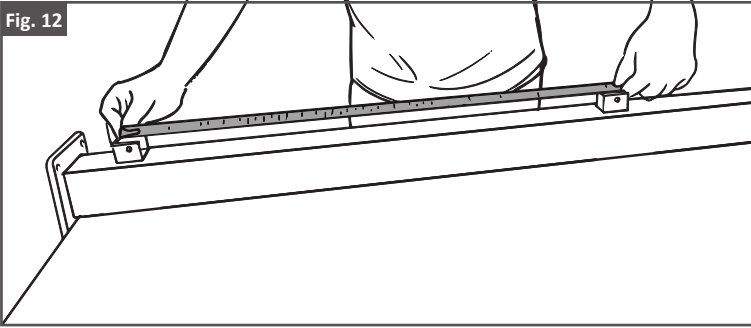




Fig. 12



### Step 3: Measure The Panel Opening Length

1. Measure the distance of the panel opening. As shown in Fig. 13.
2. Confirm that the measurements for the top brackets are the same as the bottom brackets.

#### Note:

- Measure from the back wall of the bracket to the back wall of the bracket on other post. As shown in Fig. 14.

Fig. 13

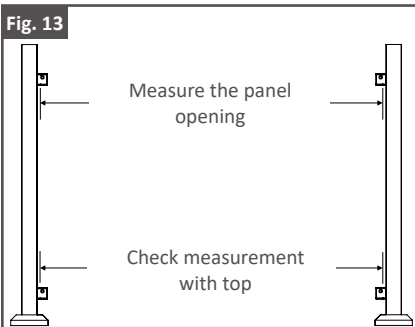
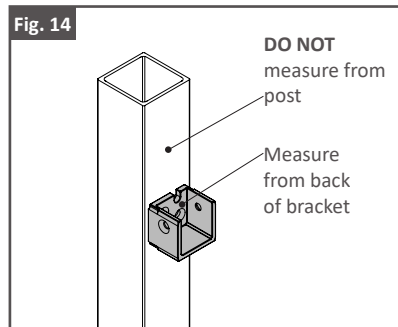


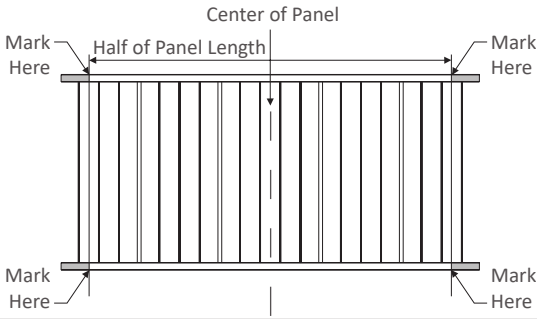
Fig. 14



## CUTTING DOWN PANELS

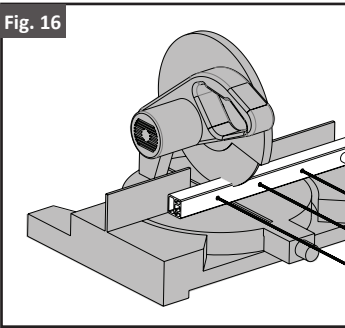
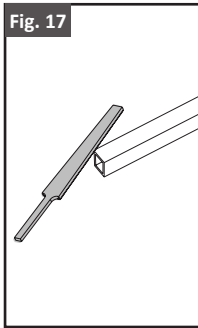
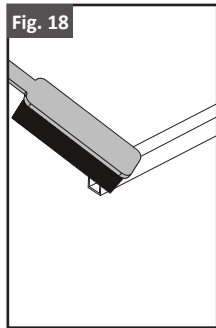
### Step 1: Measure & Mark Panels Where Cuts Will Be Made

1. To ensure panel is symmetrical, take the measurement found in step 3 of Bracket Installation and divide it in half. Then cut equal lengths from both ends.
2. Find the center of the panel and measure out half of the length each direction. As shown in Fig. 15.
3. Mark these locations with a pencil on the top and bottom rail.

**Fig. 15**

### Step 2: Cut & Clean Panel

1. Cut rails 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.

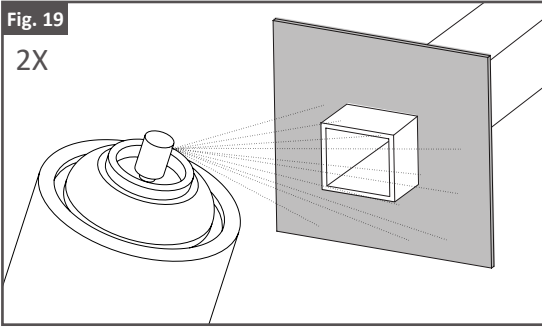
**Fig. 16****Fig. 17****Fig. 18**

### Step 3: 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. 19

2X



## PANEL INSTALLATION

### Step 1: Install I-Support On Panel

1. Center & install I-Support to underside of bottom rail with the 2 supplied Phillips Head Self-drilling Screws. As shown in Fig. 20 & 21.

Fig. 20

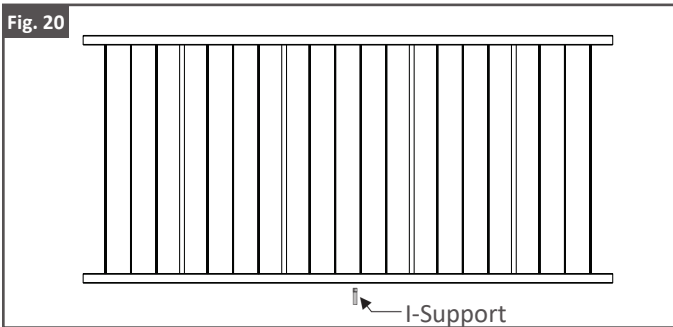
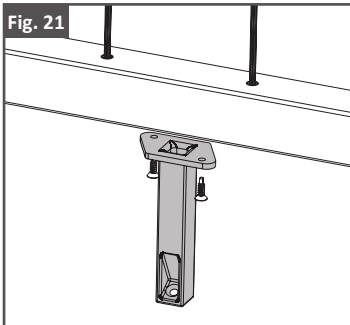
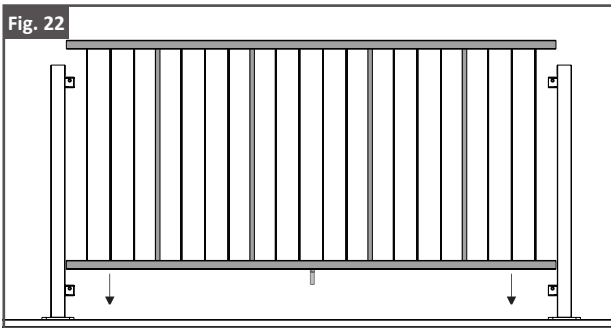


Fig. 21



## Step 2: Install Panel

1. Install cut panel to ensure proper fit.

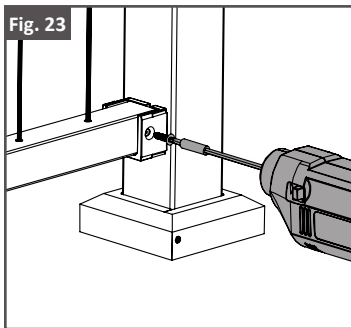


## Step 3: Attach Panel to Bottom Brackets

1. Pre-drill holes for screws using a 3/16" drill bit.
2. Apply screws into bottom brackets. As shown in Fig. 23.

### Note:

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



## Step 4: Tensioning Cable

- Reference pages 26 & 27 for cable tensioning steps.

## Step 5: Cut Top Rail Cap to Length

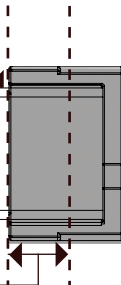
1. Measure distance from the front edge of brackets. Add 1/2" to that dimension. As shown in Fig. 24.
2. Make cut marks on the Top Rail Cap, cut the Cap to length, file the edges, and paint using the same steps as used for cutting down a panel.

Fig. 24

TOP VIEW

Front edge of bracket

Added Dimension (+1/2")



**Step 6: Install Top Rail Cap**

1. When test fitting the Top Rail Cap, **DO NOT** press the Cap down over the rail until length is confirmed.
2. A Rubber Mallet might be needed to complete installation. If using a Rubber Mallet, use a cloth to protect the Top Rail Cap from damage.

**Note:**

- The Top Rail Cap snaps between the bracket and rail. As shown in Fig. 26.

Fig. 25

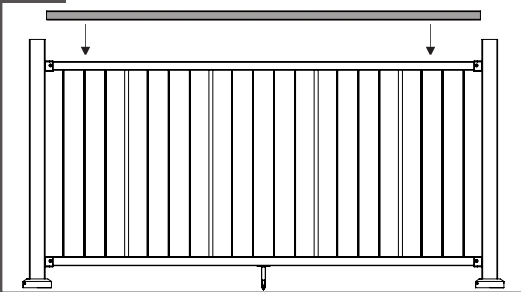
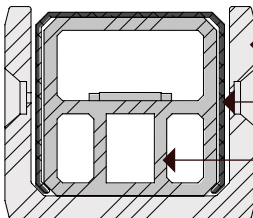


Fig. 26

SECTION VIEW



Bracket

Top Rail Cap

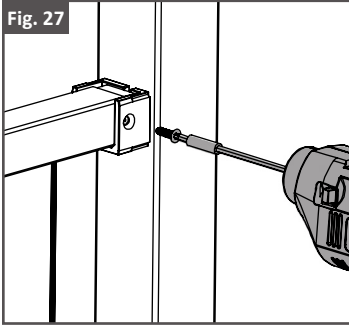
Rail

### Step 7: Apply Top Bracket Screws

1. Pre-drill holes for screws using a 3/16" drill bit.
2. Apply screws into top brackets. As shown in Fig. 27.

#### Note:

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

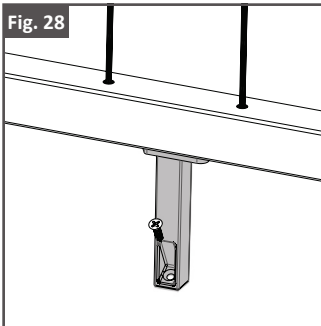


### Step 8: Attach I-Support To Deck

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

#### Tip:

- Pre-drill with a 1/16" drill bit.



### Step 9: Install Bracket Caps.

1. Bracket Caps snap down over Bracket Cups.

Fig. 29

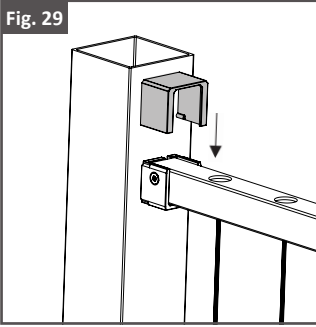
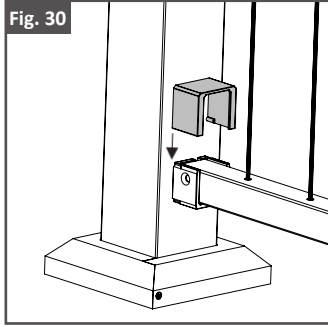


Fig. 30



### Step 10: Install AVANT Post Caps

1. AVANT Posts Caps are press fit into place.

Fig. 31

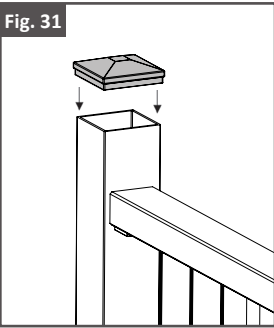
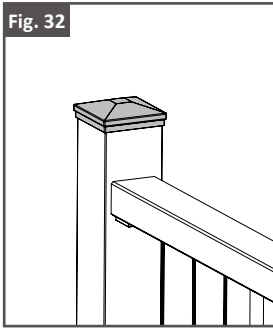


Fig. 32



### Step 11: 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. 33.
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. 34.
3. Twist the 2nd cover ¼ turn and move piece until both half's touch. As shown in Fig. 35.
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. 36.
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. 37.

Fig. 33

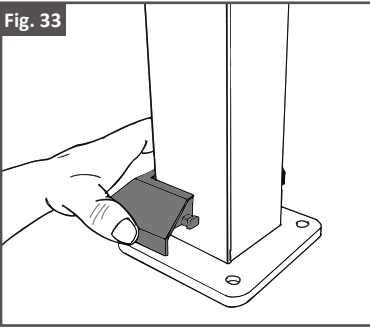


Fig. 34

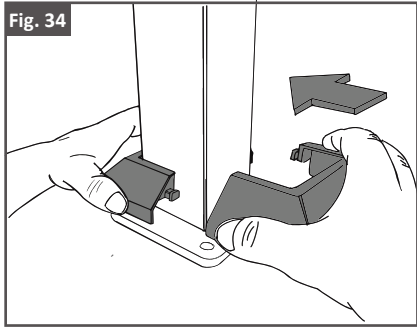


Fig. 35

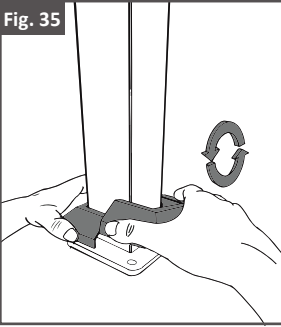


Fig. 36

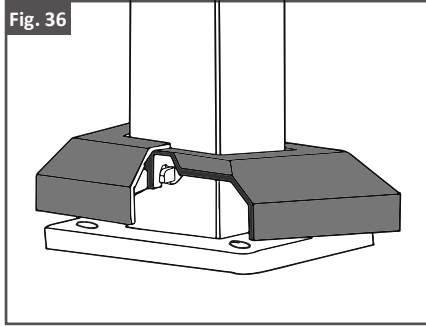
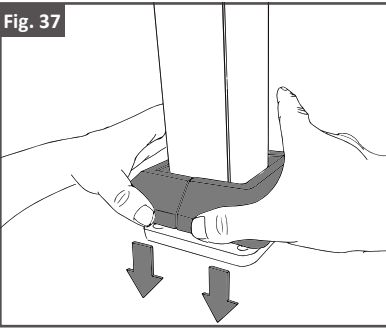


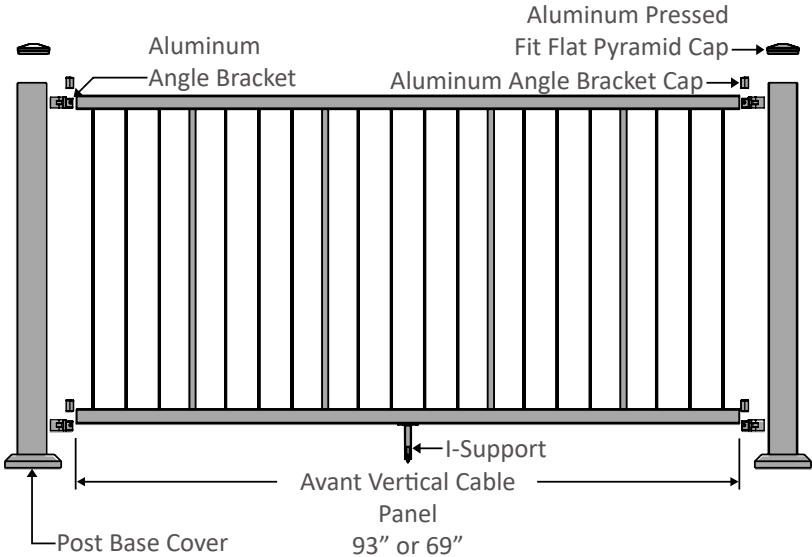
Fig. 37





## ALUMINUM ANGLE BRACKET: BRACKET OPTIONS

### 2-1/2" Aluminum Angle Bracket



Post Configurations		
Avant Panel Height	Avant Panel	
	Installed Panel Height	Required Post
32-1/2"	36"	39-1/2"
38-1/2"	42"	43-1/2"

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

## ALUMINUM ANGLE BRACKET: BRACKET INSTALLATION

### Step 1: Mark Bracket Hole Locations

1. Mark the centerline of each post with a pencil.
2. Take measurements used in Fig. 38 and 39 to mark bottom and top bracket hole locations onto posts.

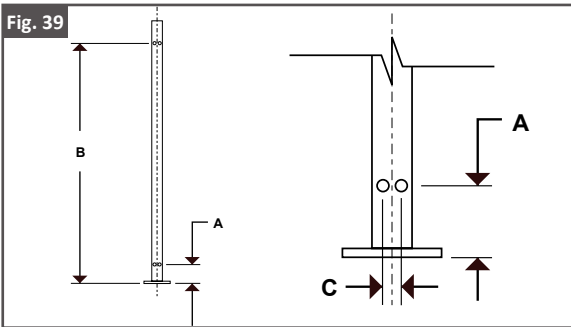
**Fig. 38****Bracket Hole Locations**

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

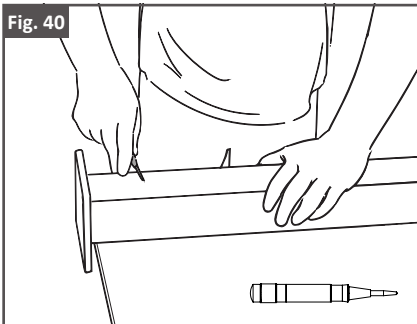
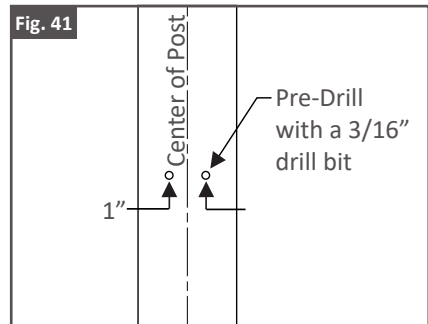
A*	B	C
4-1/4"	35-1/4"	1"
4-1/4"	41-1/4"	1"

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

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

**Fig. 39****Step 2: Pre-Drill Aluminum Angle 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. 40.
  2. Pre-drill bracket holes with a 3/16" drill bit. As shown in Fig. 41.
  3. Remove the bolt from the Aluminum Angle Bracket Assembly.

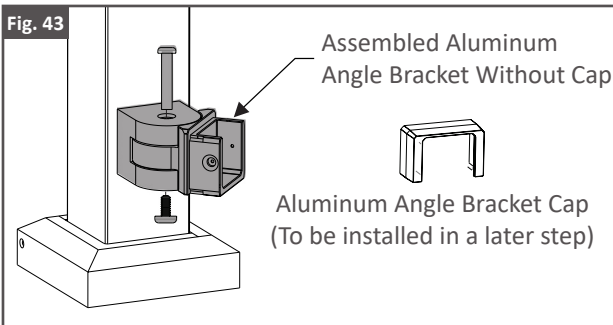
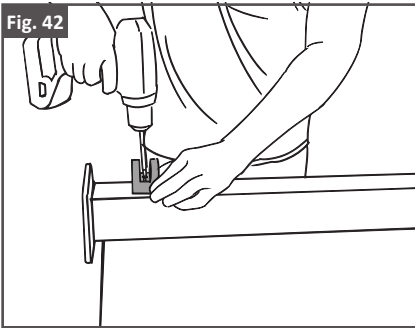
**Fig. 40****Fig. 41**

### Step 3: Install Aluminum Angle Brackets

1. Attach Aluminum Angle Bracket Base piece to the posts with supplied T-25 thread-cutting screws. Use two screws per bracket. Use low speed setting on drill. The side of the base with two holes should be facing downwards. As shown in Fig. 42.
2. Reassemble the Aluminum Angle Brackets, but **DO NOT** install the Angle Bracket Cap at this time. As shown in Fig. 43.
3. Once top and bottom brackets are installed, remeasure bracket spacing to confirm dimensions used in Fig. 38 and 39 of step 1.
4. Remove all metal shavings from deck, post base cover, post, and panel before bracket is screwed to post.

#### Tip:

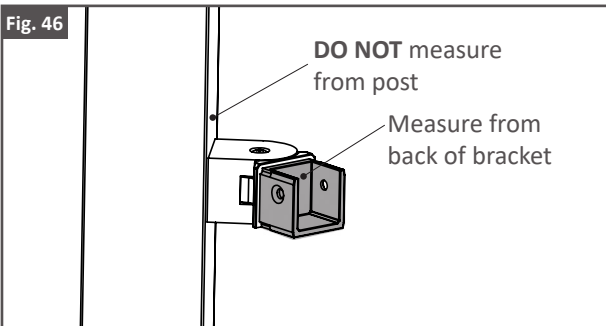
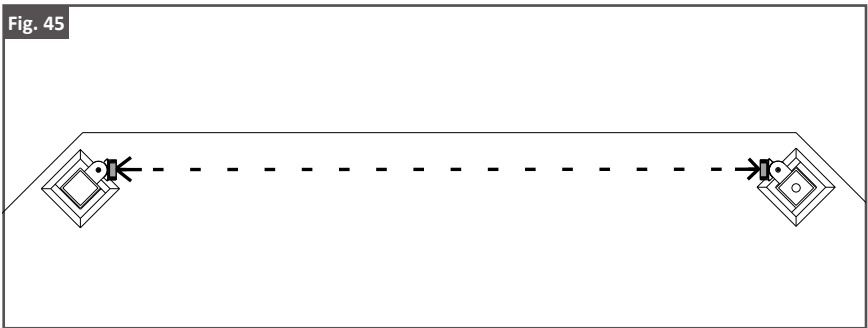
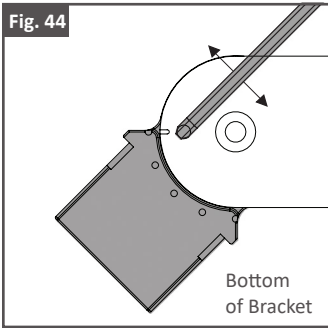
- Use a Bit Extender for an easier drilling process.



### Step 4: Determine Panel Length

1. Use 3/32" Hex Wrench to tighten Set Screw and Lock Angle Bracket at required angle position. As shown in Fig. 44.

2. Check to ensure that all posts are square and straight. Shim posts as required.
3. Ensure that the Aluminum Angle Bracket Cups are approximately aligned.
4. With another person's help, 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. 46.



## ALUMINUM ANGLE BRACKET: CUTTING DOWN PANELS

---

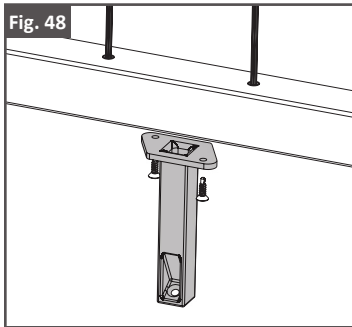
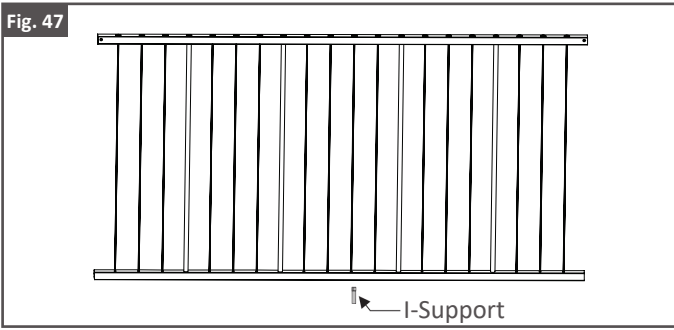
- Reference pages 9 & 10 for panel cutting steps.

## ALUMINUM ANGLE BRACKET: INSTALL PANEL

---

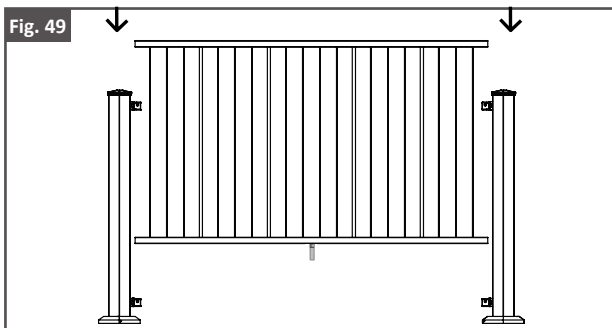
### Step 1: Install I-Support On Panel

1. Center & install I-Support to underside of bottom rail with the 2 supplied Phillips Head Self-drilling Screws. As shown in Fig. 47 & 48.



### Step 2: Install Panel

1. Install cut panel to ensure proper fit.

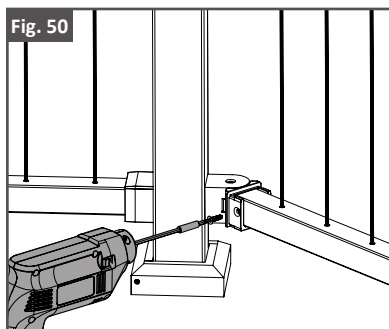


### Step 3: Attach Panel to Bottom Brackets

1. Pre-drill holes for screws using a 3/16" drill bit.
2. Apply screws into bottom brackets. As shown in Fig. 50.

#### Note:

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

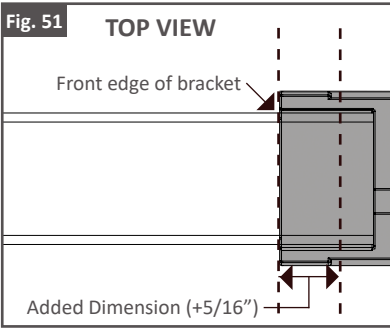


### Step 4: Tensioning Cable

- Reference pages 26 & 27 for cable tensioning steps.

### Step 5: Cut Top Rail Cap to Length

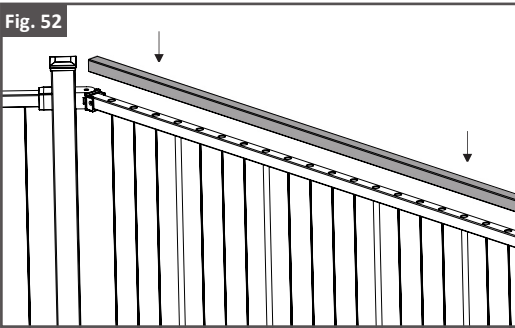
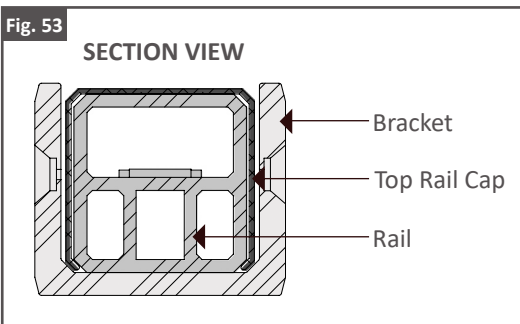
1. Measure distance from the front edge of brackets. Add 5/16" to that dimension. As shown in Fig. 51.
2. Make cut marks on the Top Rail Cap, cut the cap to length, file the edges, and paint using the same steps as used for cutting down a panel.

**Fig. 51****TOP VIEW****Step 6: Install Top Rail Cap**

1. When test fitting the Top Rail Cap, Do not press the Cap down over the rail until length is confirmed.
2. A Rubber Mallet might be needed to complete installation. If using a Rubber Mallet, use a cloth to protect the Top Rail Cap from damage.

**Note:**

- The Top Rail Cap snaps between the bracket and rail. As shown in Fig. 53.

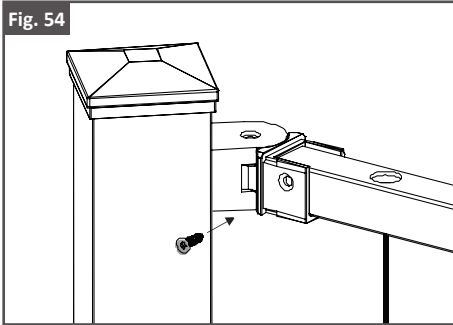
**Fig. 52****Fig. 53****SECTION VIEW**

### Step 7: Apply Top Bracket Screws

1. Pre-drill holes for screws using a 3/16" drill bit.
2. Apply screws into top brackets. As shown in Fig. 54.

#### Note:

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

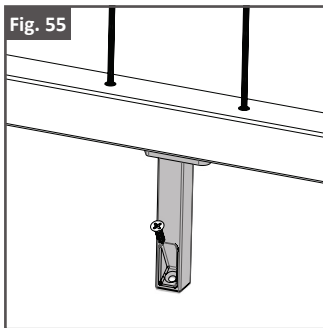


### Step 8: Attach I-Support To Deck

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

#### Tip:

- Pre-drill with a 1/16" drill bit.

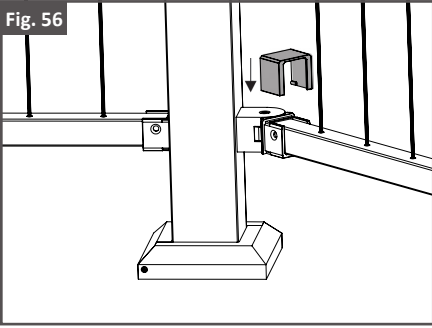


### Step 9: Install Bracket Caps

1. Bracket Caps snap down over Bracket Cups.
2. Use a broom or compressor to remove debris from railing and deck surface.



Fig. 56



### Step 10: Install Post Caps

1. AVANT Posts Caps are press fit into place.

Fig. 57

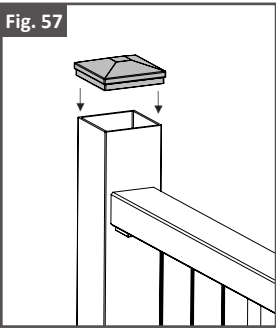
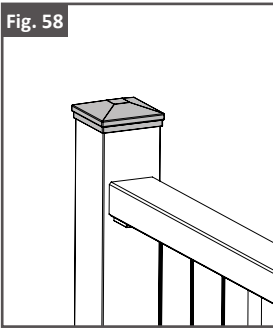


Fig. 58



### Step 11: Install Post Base Cover

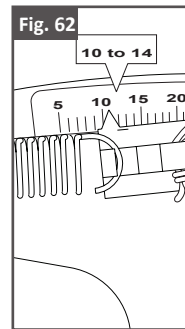
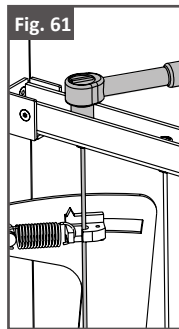
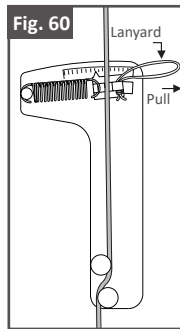
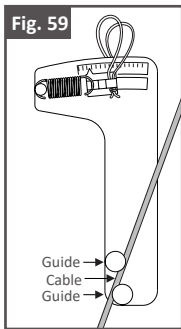
- Reference pages 15 & 16 for Post Base Cover Installation steps.

## TENSIONING CABLE

### Step 1: Tensioning the AVANT Vertical Cable Panel

#### DO NOT OVER TIGHTEN CABLES

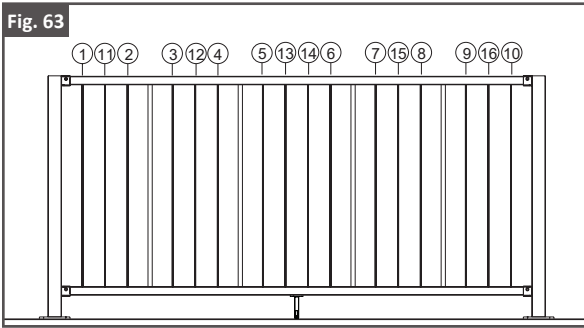
1. Use a Tension Gauge to accurately tension the cables.
2. A properly tensioned cable should be tensioned until the indicator reads between 10 and 14.
3. The AVANT Vertical Cable System uses 1/8" diameter cable.
4. See images below for information on how to load cable into the tension gauge:
  - Position cable between lower guides. As shown in Fig. 59.
  - Pull the lanyard and extend the spring until the cable is engaged with the hook in the indicator slide. As shown in Fig. 60.
  - Use a 1/2" Socket Wrench to tighten the cable. As shown in Fig. 61.
  - Tighten cable until the indicator arrow is between 10 and 14 on the tension gauge. As shown in Fig. 62.



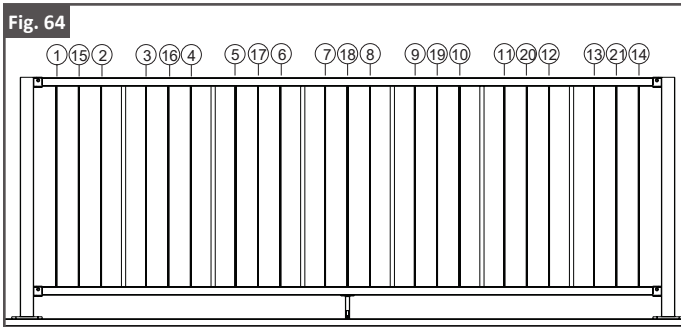
### Step 2: Cable Tensioning Sequence

1. Remove the slack from the cables using the socket wrench. Once the slack is removed, only tension the cables one turn at a time in the sequence shown to maintain even tensioning across the panel.
2. Once cables are tensioned to the proper range on the tension gauge, you may now move onto the next steps.

## 6' Rail Sequence



## 8' Rail Sequence



## CARE & MAINTENANCE

---

Care And Maintenance of AVANT Railing Products Powder-Coated Products And Surfaces:

- Immediately after installation of your AVANT Railing 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

---

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.





**JOIN THE REVOLUTION.**

**FortressBP.com | 866.323.4766**