

# Installation Instructions for FortressCable H-Series Cable Panel System With UB-05 Brackets and Fe<sup>26</sup> Posts

It is the responsibility of the installer to meet all code and safety requirements, and to obtain all required building permits. The deck and railing installer should determine and implement appropriate installation techniques for each installation situation. Fortress Railing Products and its distributors shall not be held liable for improper or unsafe installations.

Fortress Fe<sup>26</sup> Posts must always be secured to the deck framing. Fortress Fe<sup>26</sup> Posts should never be attached to only the deck boards.

## Read Instructions Completely Before Starting Installation

### Note

When cutting Fortress railing, it is very important to complete the following at cut points.

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

### Torx Safety Tips

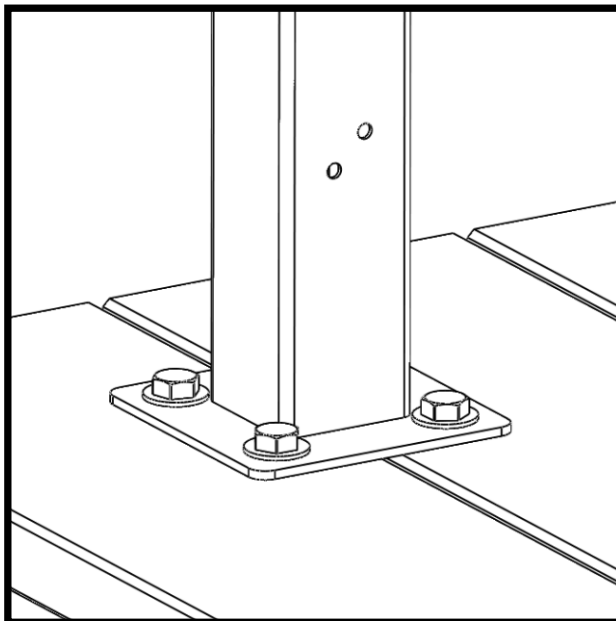
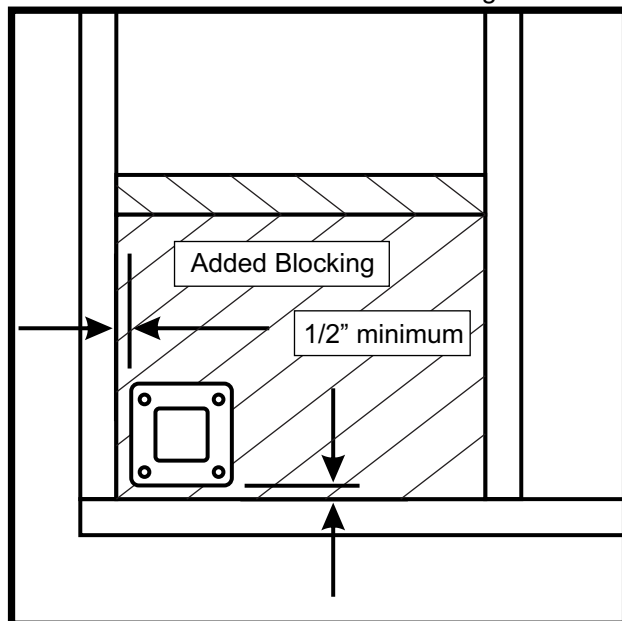
- Always pre-drill holes with a 3/16" drill bit.
- Always use the lowest speed setting on drill.
- To reduce chance of bit breakage, start tightening with drill on low torque setting and work up until screw is secured.

### Required Materials

Portable Band Saw or Miter saw with metal blade, M4 Allen wrench, metric socket set, drill, 3/16" and 1/4" drill bits, T-25 driver bit, drill bit extender, tape measure, speed square, file, Fortress wire cutter, Tension gauge, rubber mallet, and touch-up paint

### Mount Fe<sup>26</sup> Posts\*

- Wood blocking tied to deck frame must be installed and constructed with treated dimensional lumber with a minimum thickness of 1-1/2".
- Position the edge of Fe<sup>26</sup> Post base plate a minimum of 1/2" from the inside edge of the rim joist.
- Mount Fe<sup>26</sup> Posts at appropriate points based on panel length.
- Attach Fe<sup>26</sup> Posts with 3/8" X 3-1/2" hex head galvanized bolts.

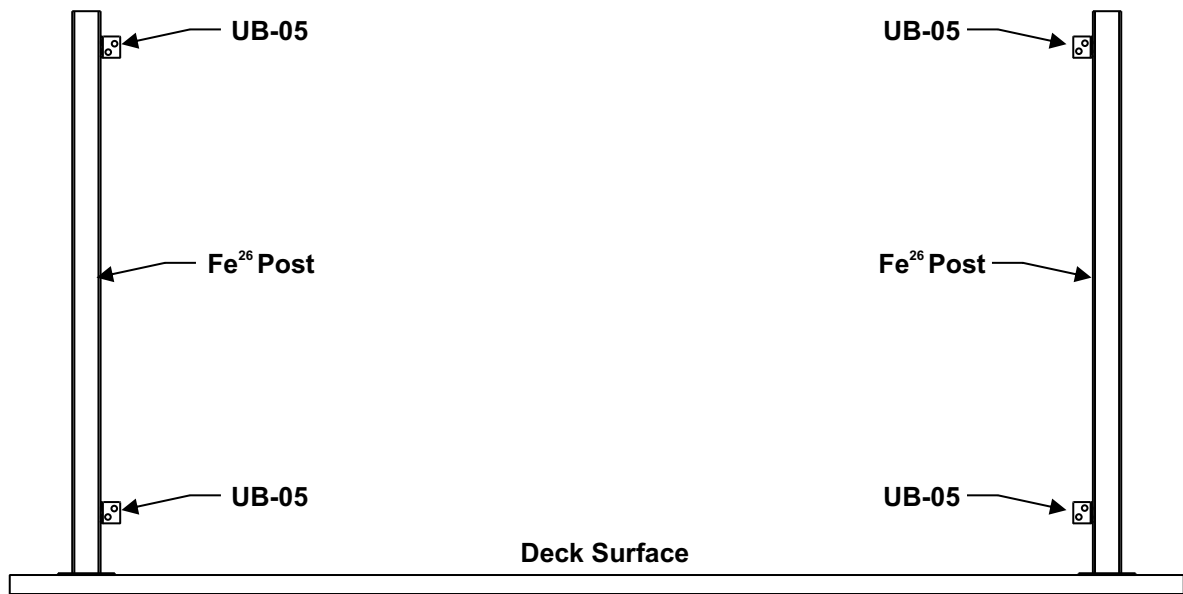


\*Reference Fortress Fe<sup>26</sup> Post mounting instructions

# FortressCable H-Series Cable System Installation with Fe<sup>26</sup> UB-05 Brackets

Install Posts and UB-05 brackets. Brackets should be spaced according to the height of the Fortress H-Series system being installed. H-Series cable panels are 34" or 40" systems.

Reference Fe<sup>26</sup> UB-05 instructions for bracket installation.



## UB-05 Bracket Top and Bottom Locations for FortressCable H-Series System Installations

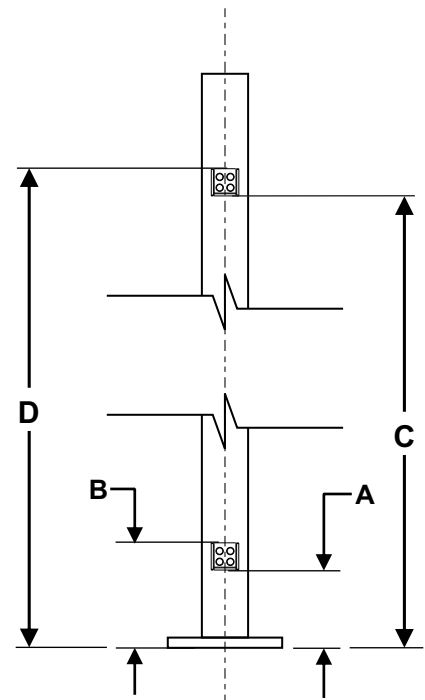
Pre-drilling with a 3/16" drill bit is required.

Rail Panel Height	Pre-Drill Dimensions			
	A*	B	C	D
34"	3-5/8"	5-1/8"	36-3/8"	37-7/8"
40"	3-5/8"	5-1/8"	42-3/8"	43-7/8"

\*Dimension A positions bottom edge of rail 3-3/4" above deck surface.

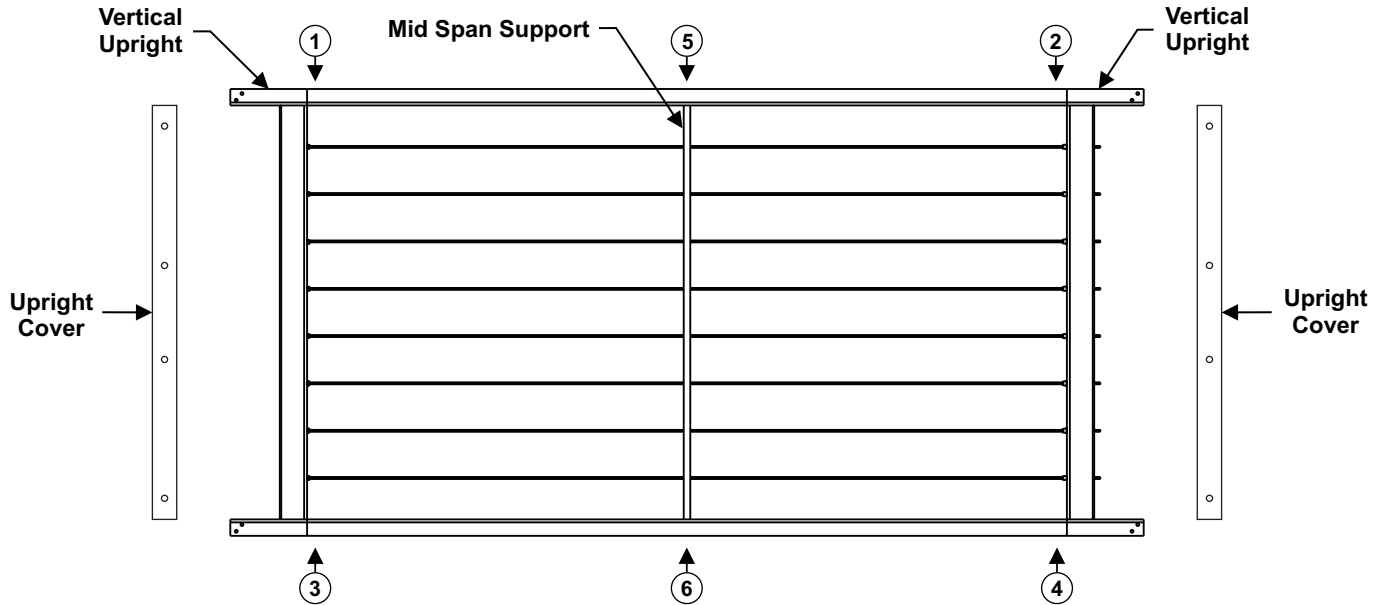
\*Dimension A is measured from the bottom surface of post base.

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



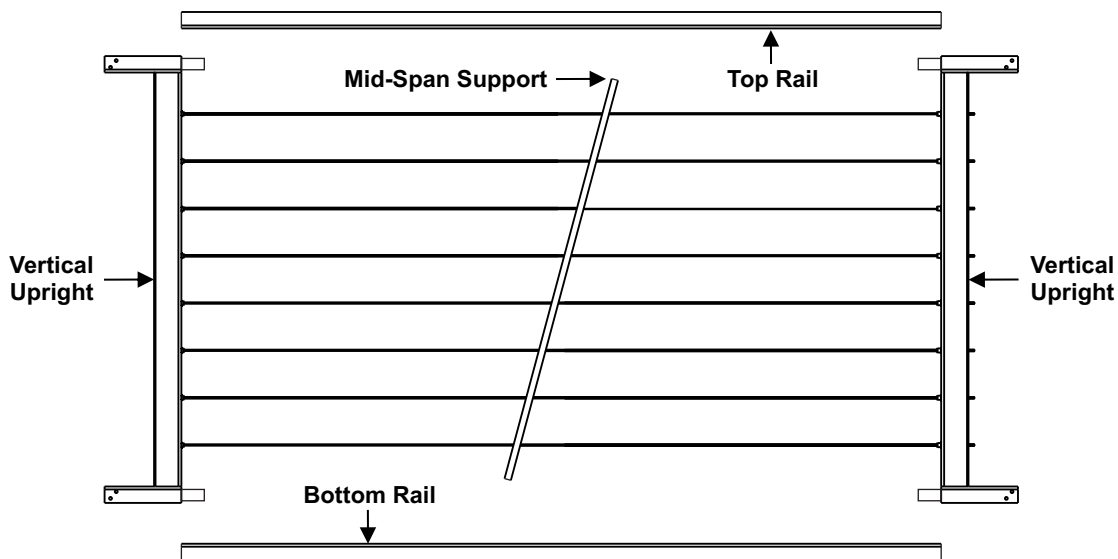
## Remove Vertical Upright Covers and Detach Mid-Span Supports and Vertical Uprights from Rails

- Support panel on a flat work surface. Protect the product from scratching by placing cardboard on the surface. Use a M4 Allen wrench to remove the 4 button head cap screws that secure each upright cover in place.
- Place upright covers and screws to the side. (They will be reinstalled in later step.)
- Using a M4 hex wrench, remove the fasteners (5 & 6) holding the mid-span support.
- Using a M4 hex wrench and M10 socket, remove the fasteners (1,2,3 & 4) holding the top and bottom rails to the vertical uprights.



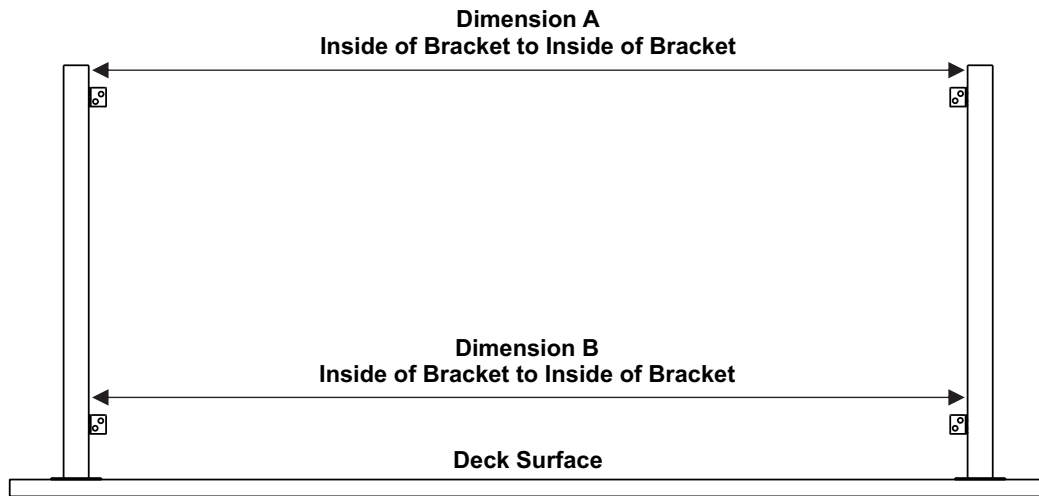
## Remove Top Rail and Bottom Rail

- Use a rubber mallet to remove top rail and bottom rail from vertical uprights.
- Be careful not to scratch vertical uprights.
- Cables and mid-span support will stay together.



## Determine the Installed Length of the FortressCable H-Series Cable Rails

- Measure the length between the installed upper UB-05 brackets (Dim A) and between the lower UB-05 (Dim B) brackets. Dimensions A and B should be the same.
- If dimensions are different, check posts for squareness and make required adjustments.



## Determine the Cut Length of the FortressCable H-Series Cable Rails

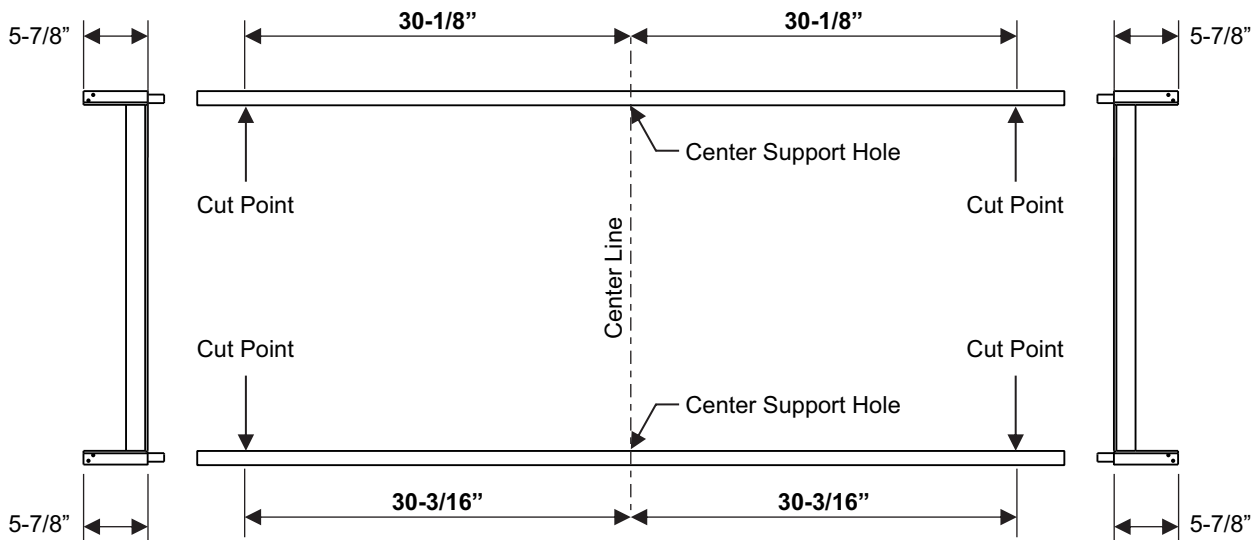
- When calculating how much rail must be cut from each end of a rail, you must also include the length of the vertical upright rails. The length of each vertical upright rail is 5-7/8", so the total length to remove from dimensions A and B is 11-3/4".
- Use these formulas to cut your rails to the correct length.

**Top Rail Dimension A - 11-3/4" = Top Rail Cut Length**

**Bottom Rail Dimension B - 11-3/4" = Bottom Rail Cut Length**

- To keep mid-span support centered between posts, take an equal amount from each end of rail. Use the drilled mid-span support hole as your reference point.
- Divide the rail cut length by 2 to mark cut points.

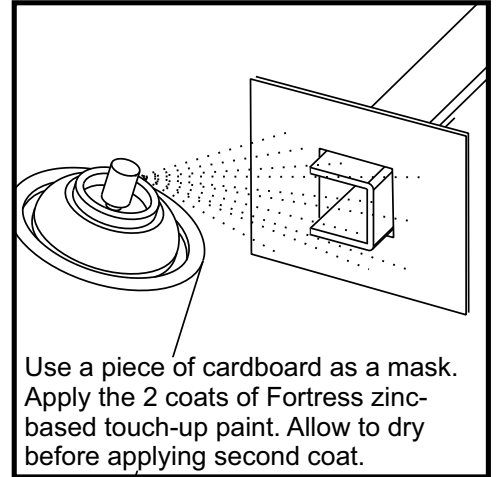
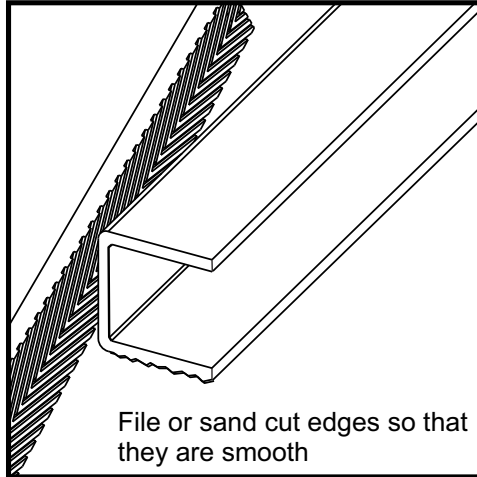
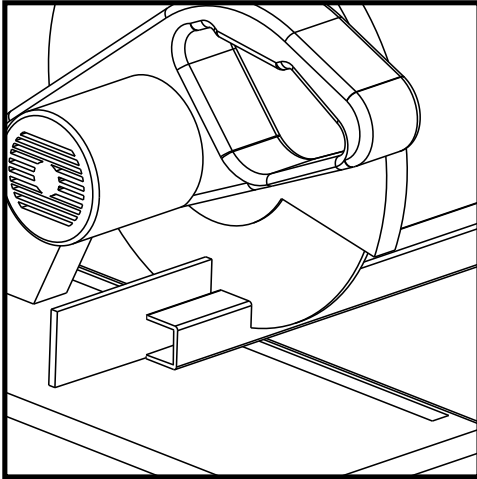
**Example: Dimension A = 72"       $72" - 11\text{-}3/4" = 60\text{-}1/4"$        $60\text{-}1/4" / 2 = 30\text{-}1/8"$**



**Example: Dimension B = 72-1/8"       $72\text{-}1/8" - 11\text{-}3/4" = 60\text{-}3/8"$        $60\text{-}3/8" / 2 = 30\text{-}3/16"$**

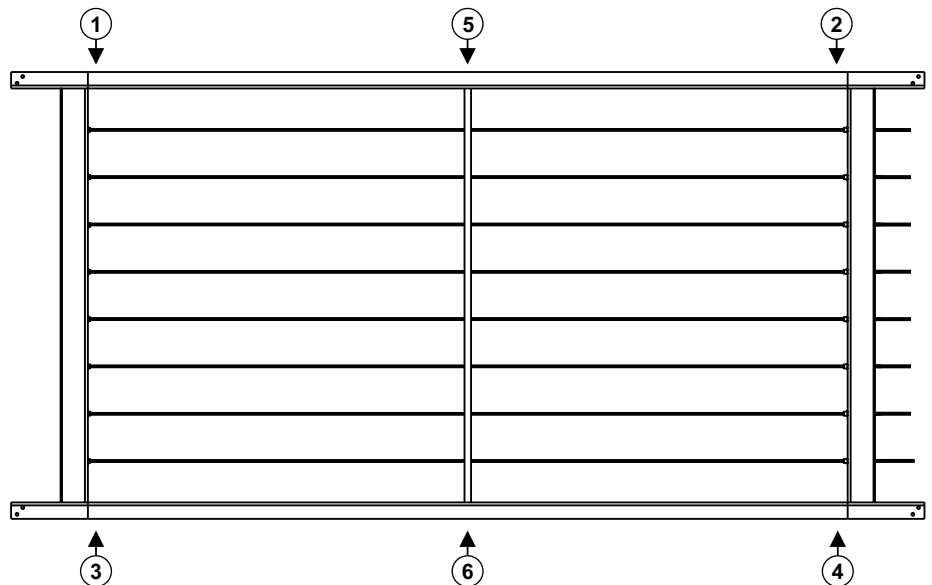
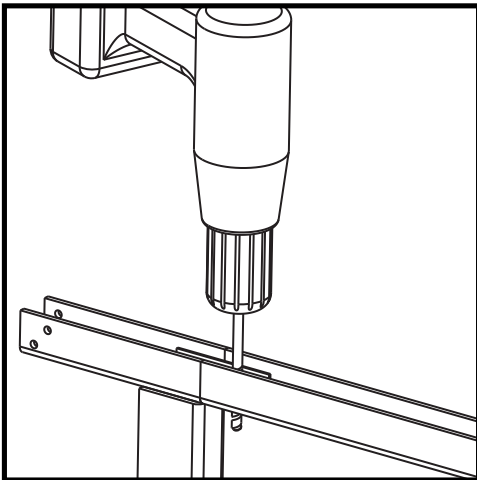
## Cutting FortressCable H-Series Cable Rails

- For best results use a miter saw with a metal cutting blade. Straight cuts are critical for a professional installation.
- File cut edges smooth.
- Apply two coats of Fortress zinc-based touch-up paint.



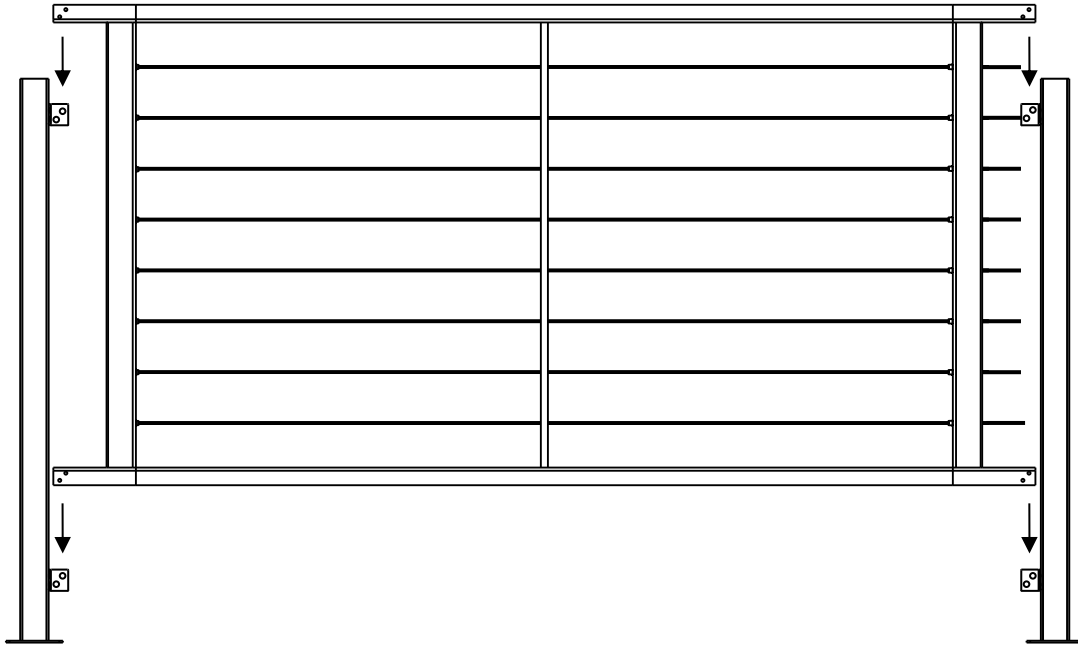
## Reattach Rails to Vertical Uprights and Mid-Span Support

- Position cut H-Series cable rails onto the vertical uprights. Using the holes in the vertical uprights as a guide, use a 1/4" drill bit to drill to replace the holes that were removed when rails were cut to length.
- Remove metal shavings from drilled holes, file rough edges and apply Fortress zinc based touch-up paint.
- Use a M4 Allen wrench and M10 socket to reinstall the 4 button head cap screws and nuts (1,2,3 & 4) that secure the top and bottom rails to the vertical uprights.
- Use a M4 socket to reinstall the 2 hex head bolts (5&6) that secure the mid-span support to the rails.



## Install FortressCable H-Series Panel into Fe<sup>26</sup> UB-05 Brackets

- Align rails with UB-05 brackets and drop panel into place.
- The pre-drilled holes in the vertical uprights should align with the holes in the sides of UB-05 brackets.
- Using the T-25 thread cutting screws supplied with UB-05 brackets, secure the rail to each UB-05 bracket using 1 screw in each bracket.

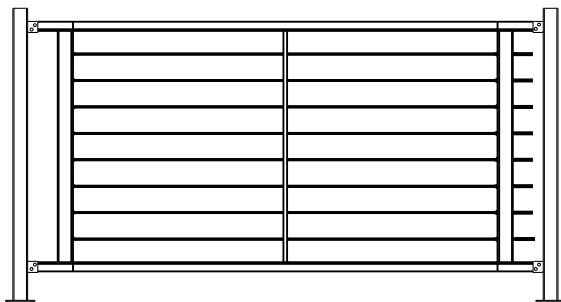


## Pull Cables Tight

- Back hex nut off until they are almost removed from adjustable swage. You will need the full length of threads to properly tension the cable in the next step.
- Apply inward pressure to cable clamp as excess cable is removed.
- Pull exposed cable through the cable clamp to remove excess cable.
- If cable jams, tap the cable clamp nut with a wrench to loosen.
- Cable clamp can also be disassembled to remove jam. Clamp components must be reassembled in the order shown below.

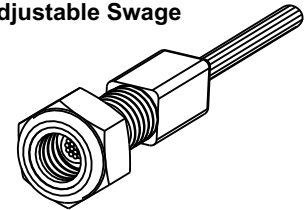
Adjustable Swage  
End of Panel

Cable Clamp  
End of Panel

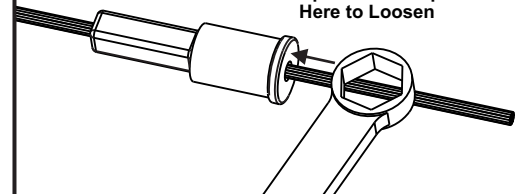


→ Pull Cables  
at This End

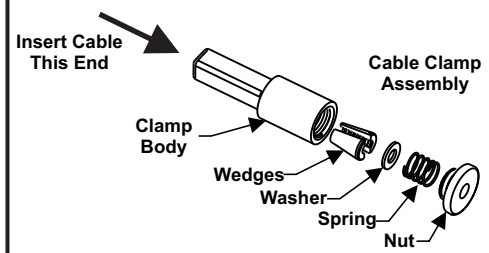
Adjustable Swage



Tap Cable Clamp  
Here to Loosen



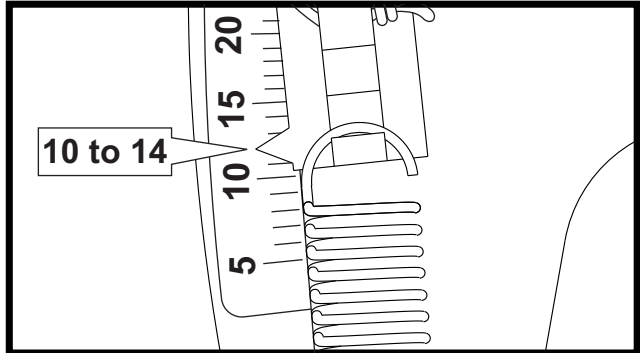
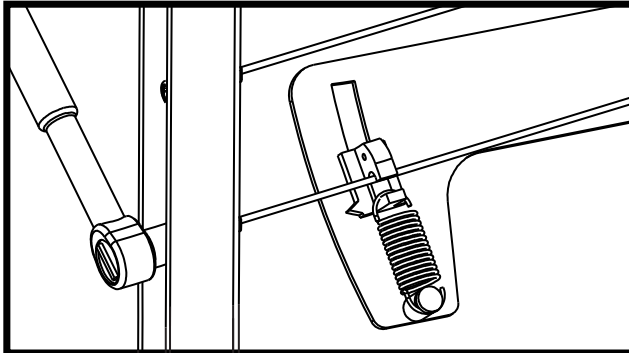
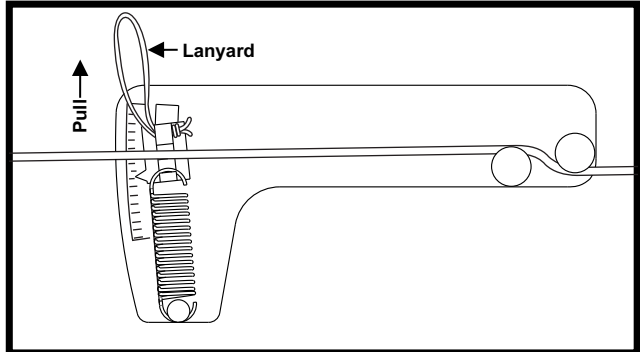
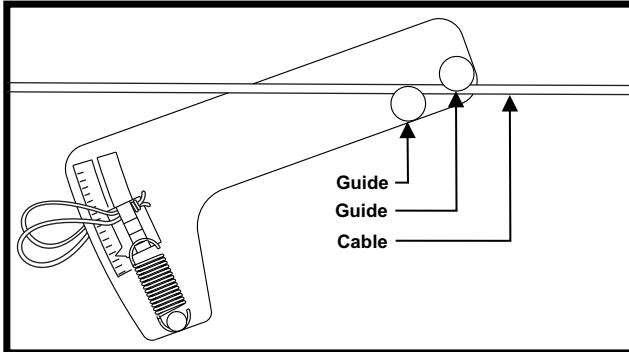
Insert Cable  
This End



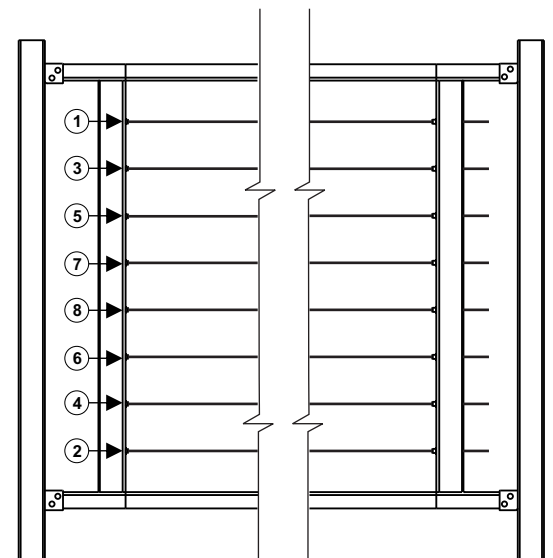
# Tightening the FortressCable H-Series System

## DO NOT Over Tighten Cables

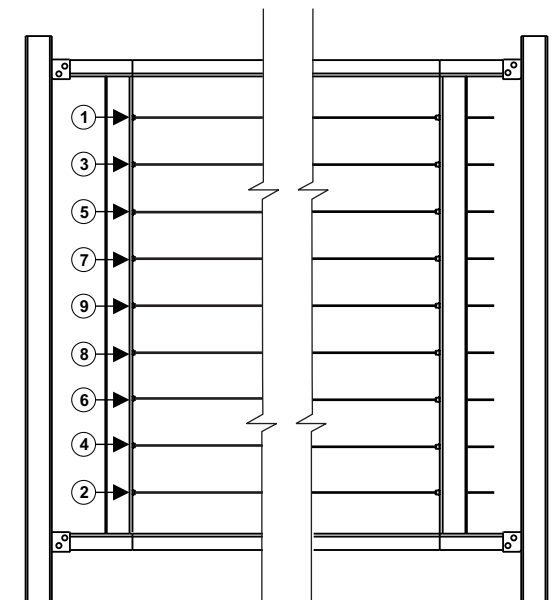
- A properly tensioned cable should be tensioned until the indicator reads between 10 and 14.
- Use a Fortress Cable Tension Gauge to accurately tension the cables.
- See images below for information on how to load cable into the tension gauge.
- Position cable between lower guides.
- Pull the lanyard and extend the spring until the cable is engaged with the hook in the indicator slide.
- The Fortress Vertical Cable System uses 1/8" diameter cable.
- Remove cable slack from cable before tightening.
- Use a 13mm Socket Wrench to tighten the cables in the sequence shown below.
- Tighten cable until the indicator arrow is between 10 and 14 on the tension gauge.



**34" High Rail Sequence**

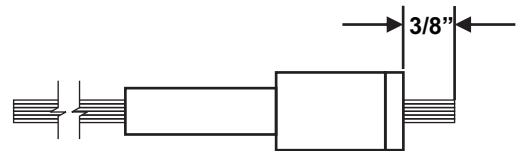
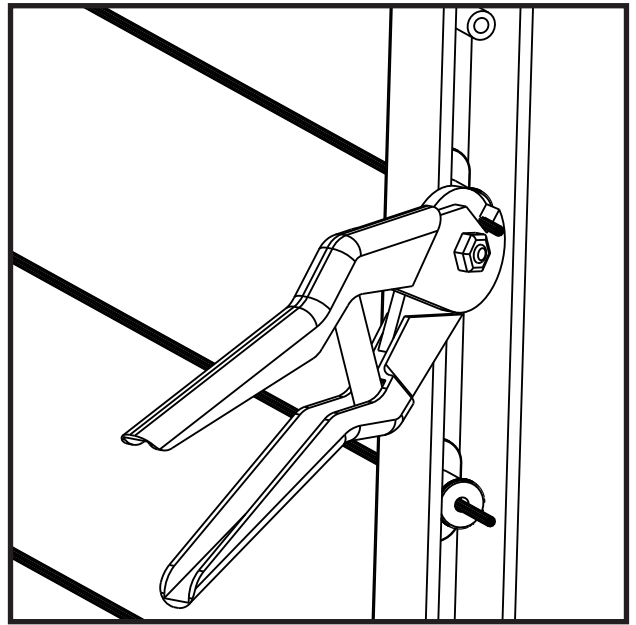
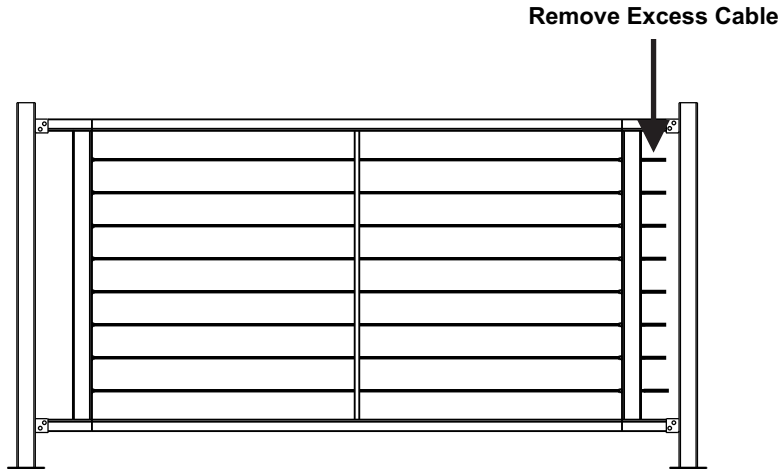


**40" High Rail Sequence**



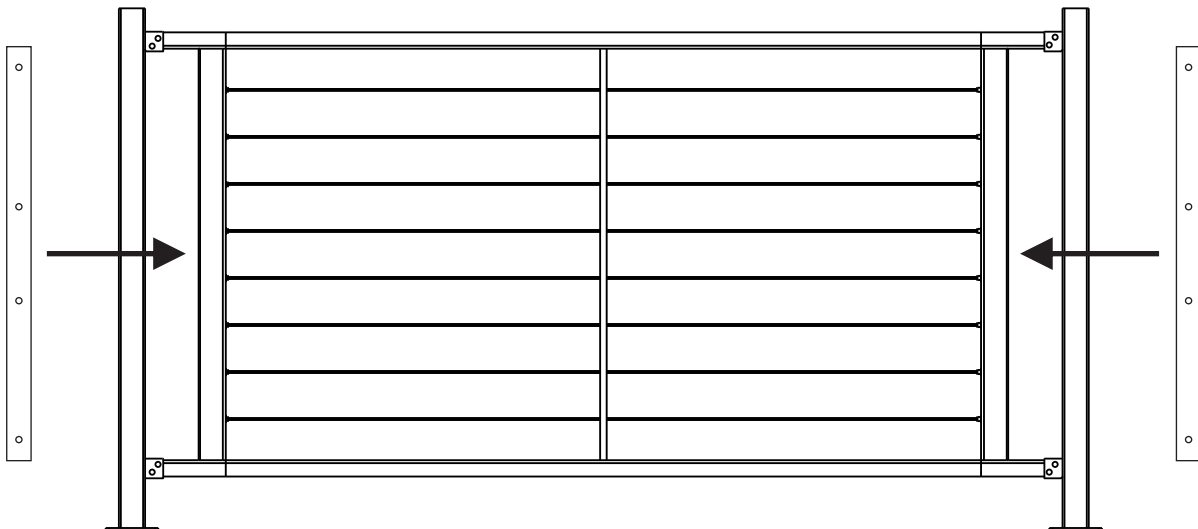
## Cut Excess Cable Length

- After cables have been tensioned, use Fortress wire cutters to cut excess cable at the cable clamp end of panel.
- Cables must not extend more than 3/8" from Cable Clamp after cutting.



## Reinstall the Vertical Upright Covers

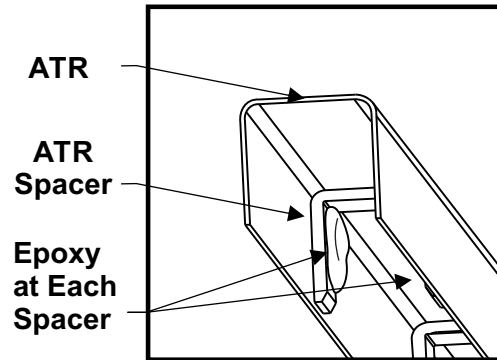
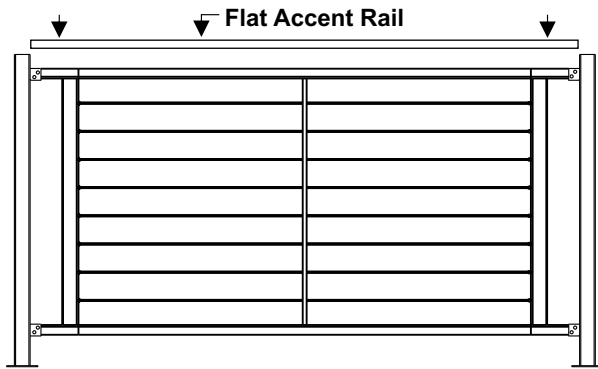
- Use a M4 Allen wrench to install the 4 button head cap screws that secure each upright cover in place.





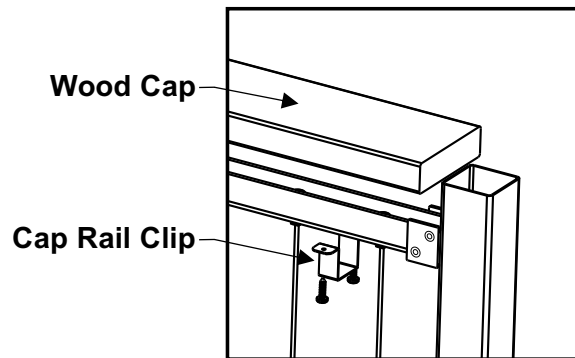
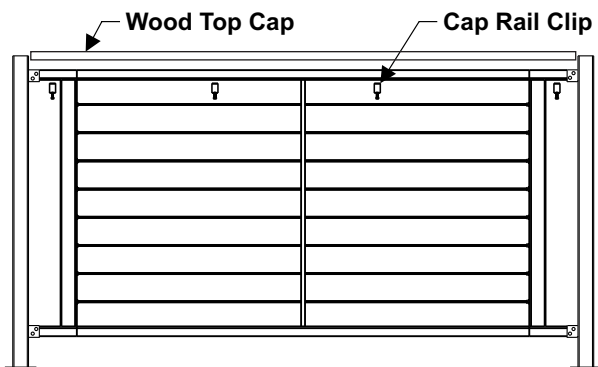
## Install Flat Accent Top Rail (ATR) - Option 1

- Measure the distance between posts.
- A minimum of two ATR spacers are required in order to ensure proper fit of ATR.
- File any rough edges from cuts and apply zinc-based touch-up paint.
- Apply a quarter-sized drop of epoxy to the side walls of each ATR spacer. Follow cure times specified on epoxy packaging.
- Install ATR onto rail and wipe away any excess epoxy with a clean cloth.
- Let epoxy cure. Do not apply any force to installed ATR for 2 hours.



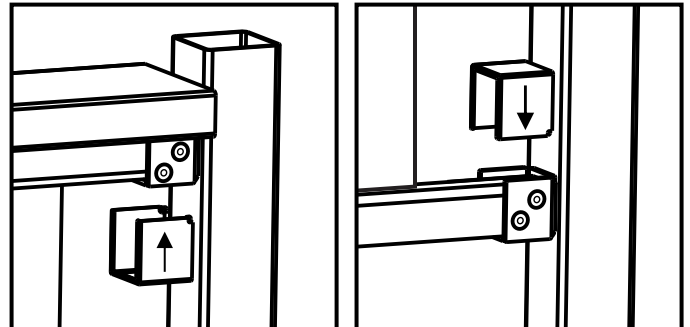
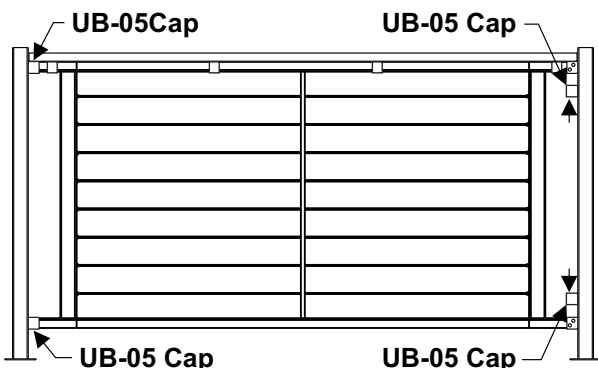
## Install Wood Top Cap - Option 2

- Cut wood top cap to length and secure to top rail with Fortress cap rail clips.
- Cap rail clips should be equally spaced along the length of wood top cap (**max spacing is 28"**).



## Install UB-05 Caps

- When using a wood top cap and installing the UB-05 caps on the top rail, the caps should be installed upside down as shown.
- If using a Fortress flat accent top rail, UB-05 caps will not be used on the top rail.





## Installation Instructions for FortressCable H-Series Stair Panels with Simplified Stair Bracket SSB-05 and Fe<sup>26</sup> Posts

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Fortress Fe<sup>26</sup> Posts must always be secured to the deck framing. Fortress Fe<sup>26</sup> Posts should never be attached to only the deck boards.

### Read Instructions Completely Before Starting Installation

#### Note

When cutting Fortress railing, it is very important to complete the following at cut points.

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

#### Torx Safety Tips

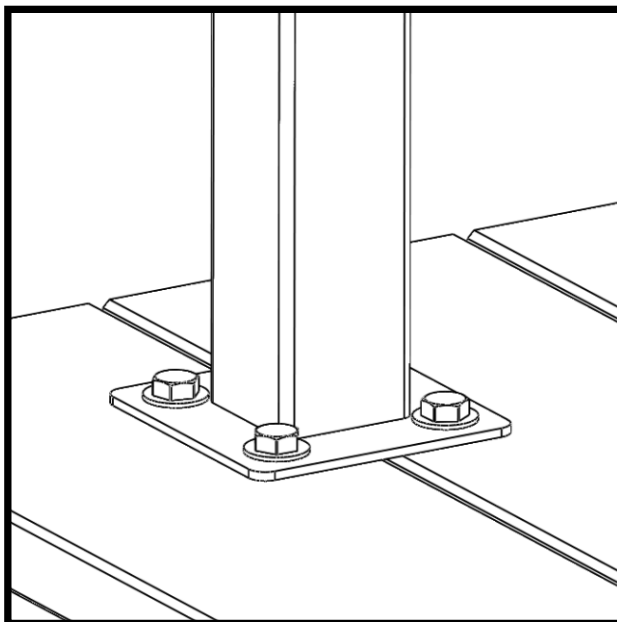
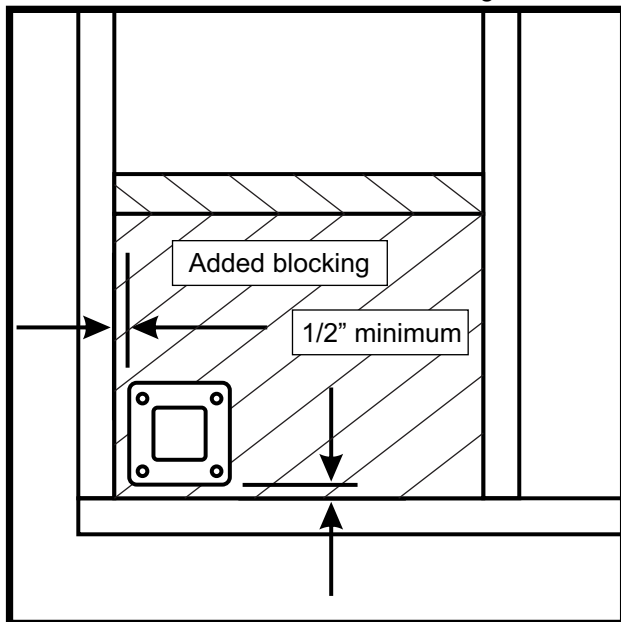
- Always pre-drill holes with a 3/16" drill bit.
- Always use the lowest speed setting on drill.
- To reduce chance of bit breakage, start tightening with drill on low torque setting and work up until screw is secured.

#### Required Materials

Miter saw with metal blade or metal cutting reciprocating saw, 3/16" & 1/4" drill bits, T-25 driver bit, driver bit extender, tape measure, speed square, touch-up paint, 2 Phillips head screwdriver, M4 Allen wrench, metric socket set, Fortress wire cutters, Tension gauge, level, & rubber mallet

#### Mount Fe<sup>26</sup> Posts\*

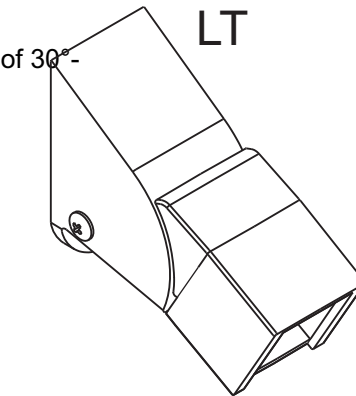
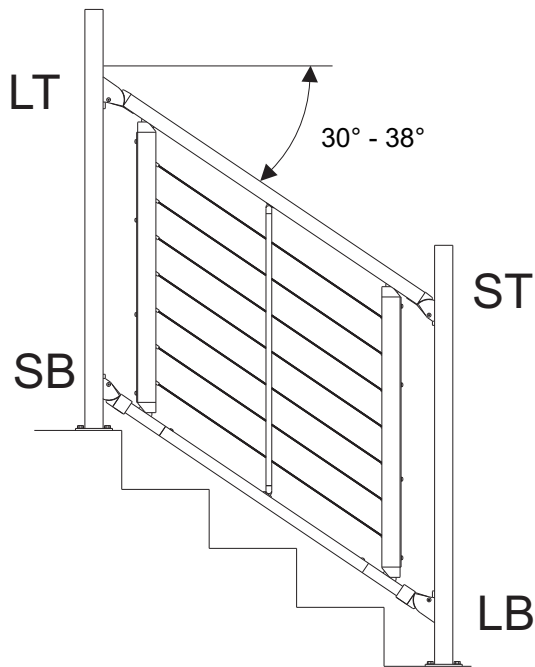
- Wood Blocking tied to deck frame must be installed and constructed with treated dimensional lumber with a minimum thickness of 1-1/2".
- Position the edge of Fe<sup>26</sup> Post base plate a minimum of 1/2" from the inside edge of rim joist.
- Mount Fe<sup>26</sup> Posts at appropriate points based on panel length.
- Attach Fe<sup>26</sup> Posts with 3/8" X 3-1/2" hex head galvanized bolts.



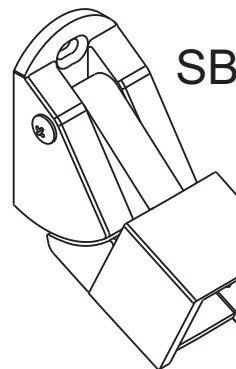
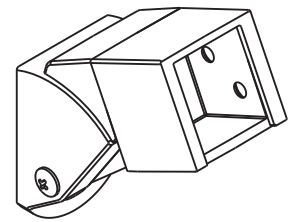
\*Reference Fortress Fe<sup>26</sup> Post mounting instructions

## Simplified Stair Brackets SSB-05

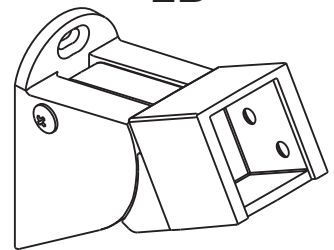
- Identify the 4 brackets LT, ST, LB and SB by the letters stamped in each part.
- The SSB-05 brackets work between the angles of 29°-40°.
- The FortressCable H-Series panel works between the angles of 30°-38°.



ST



LB



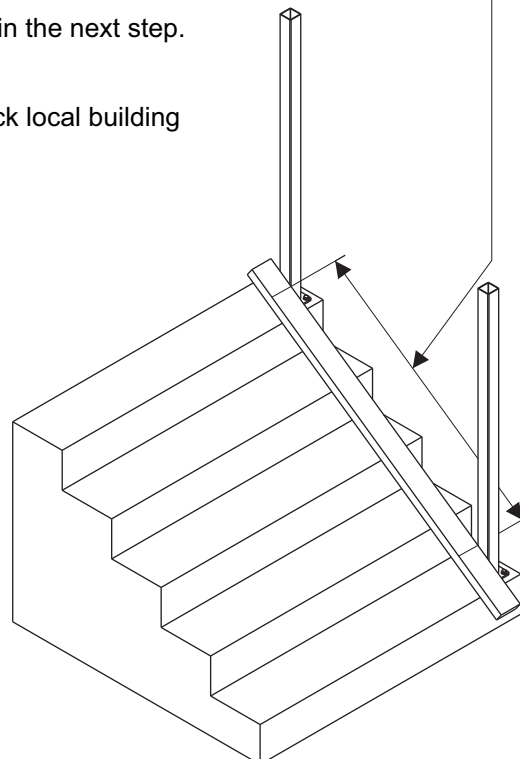
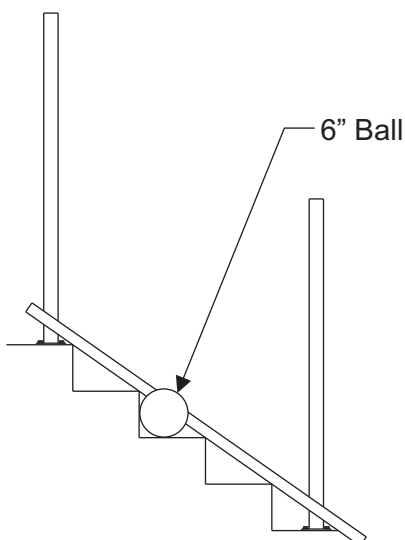
## Locating Posts

- On a long straight 2x4 make 2 marks for the max distance (98-7/16") on the inside face of the posts (See table).
- Place the 2x4 on the nose of the stair steps next to the 2 posts.
- Do not attach the post to the step until locations are confirmed in the next step.

\* Top edge of the lumber will be the height of the bottom rail

\* Confirm panel lower rail will be less than 6" from the step. Check local building code for the exact spacing required.

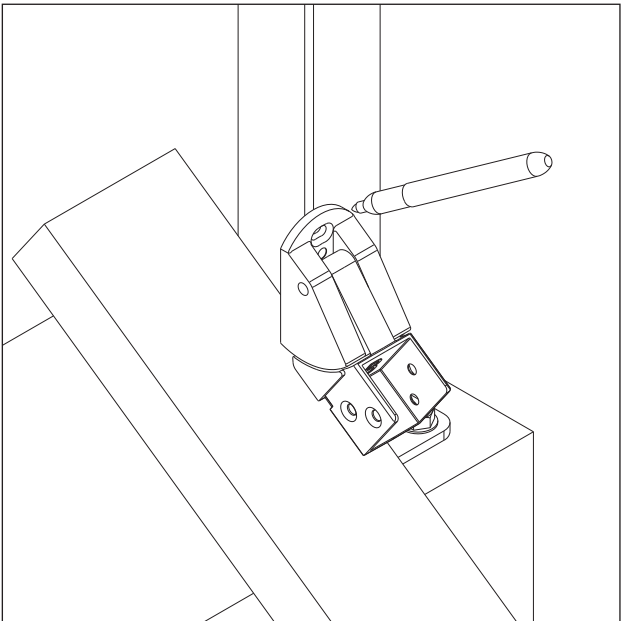
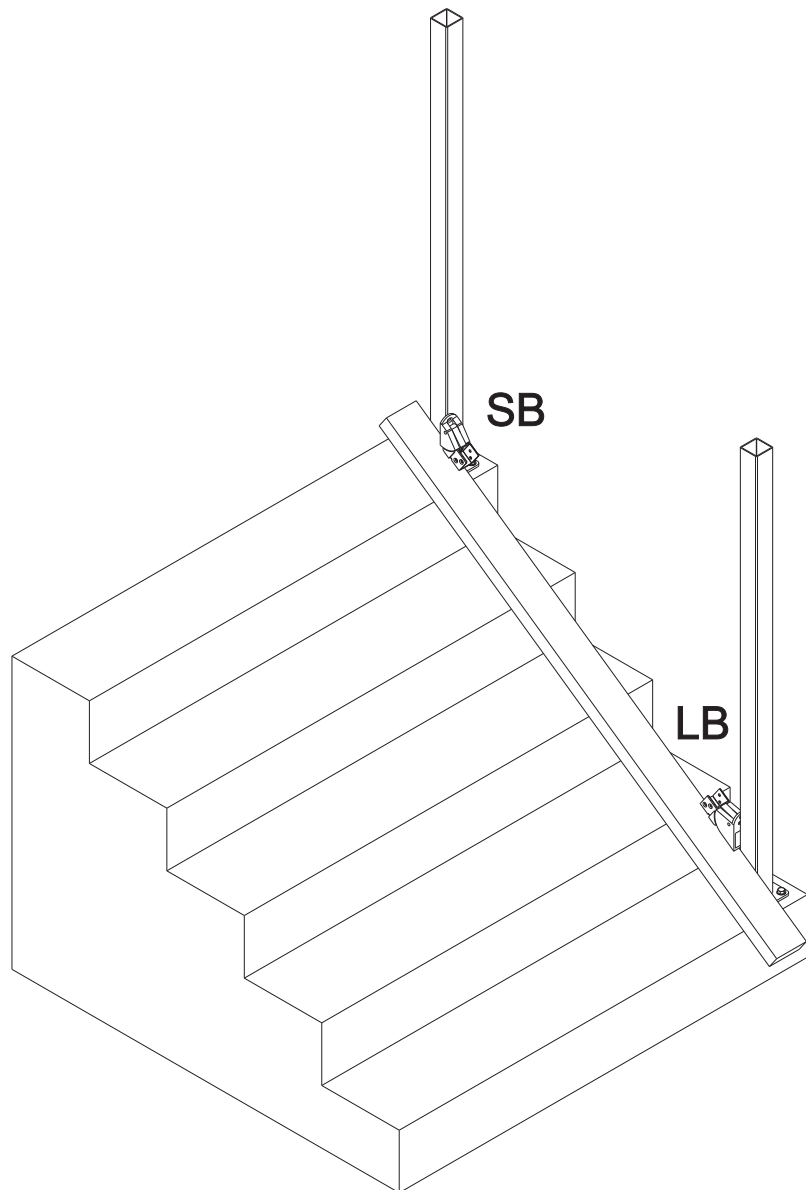
Post Max Distance	
8' panel	98-7/16"



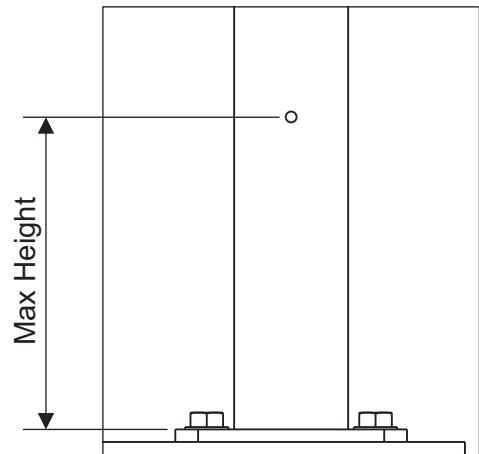
# Locate the Outside Screw for the Bottom Bracket

- Locate the 2 bottom rail brackets LB and SB.
- Place each bracket on top of the lumber flat against the post.
- Find the center of the post and mark the outside screw location.
- Attach post to stairs.

**Note:** Do not exceed the max height for the outside screw location.



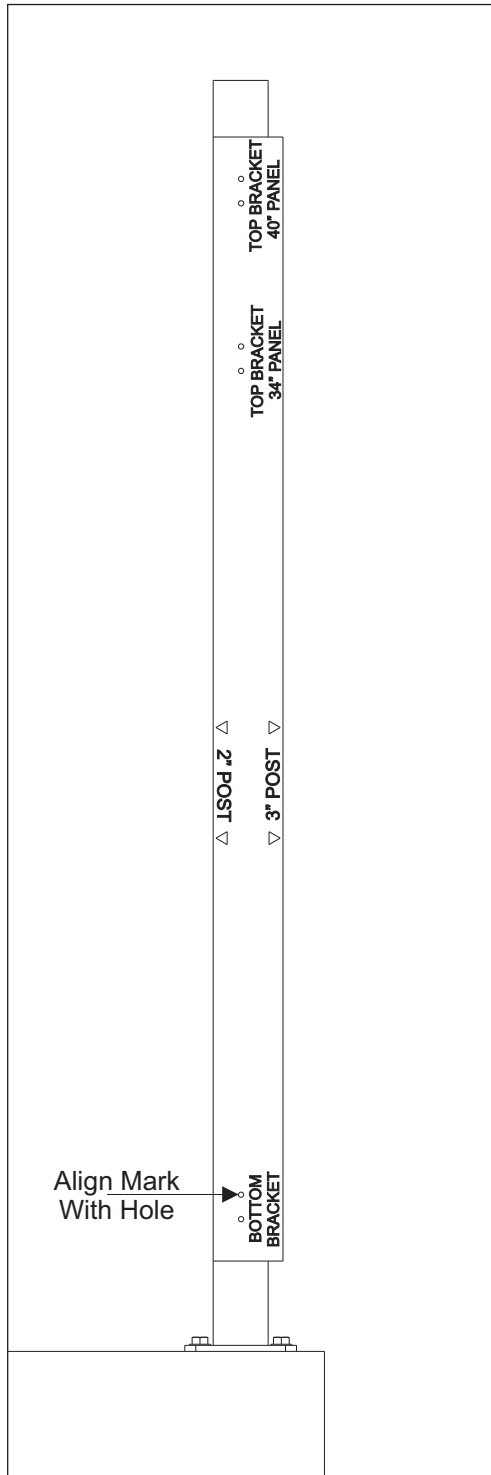
34" Panel 39.5" Post Max Height		34" Panel 45.5" Post Max Height		40" Panel 45.5" Post Max Height	
Top post	5-1/4"	Top post	11-1/4"	Top post	5-1/4"
Bottom post	6"	Bottom post	12"	Bottom post	6"



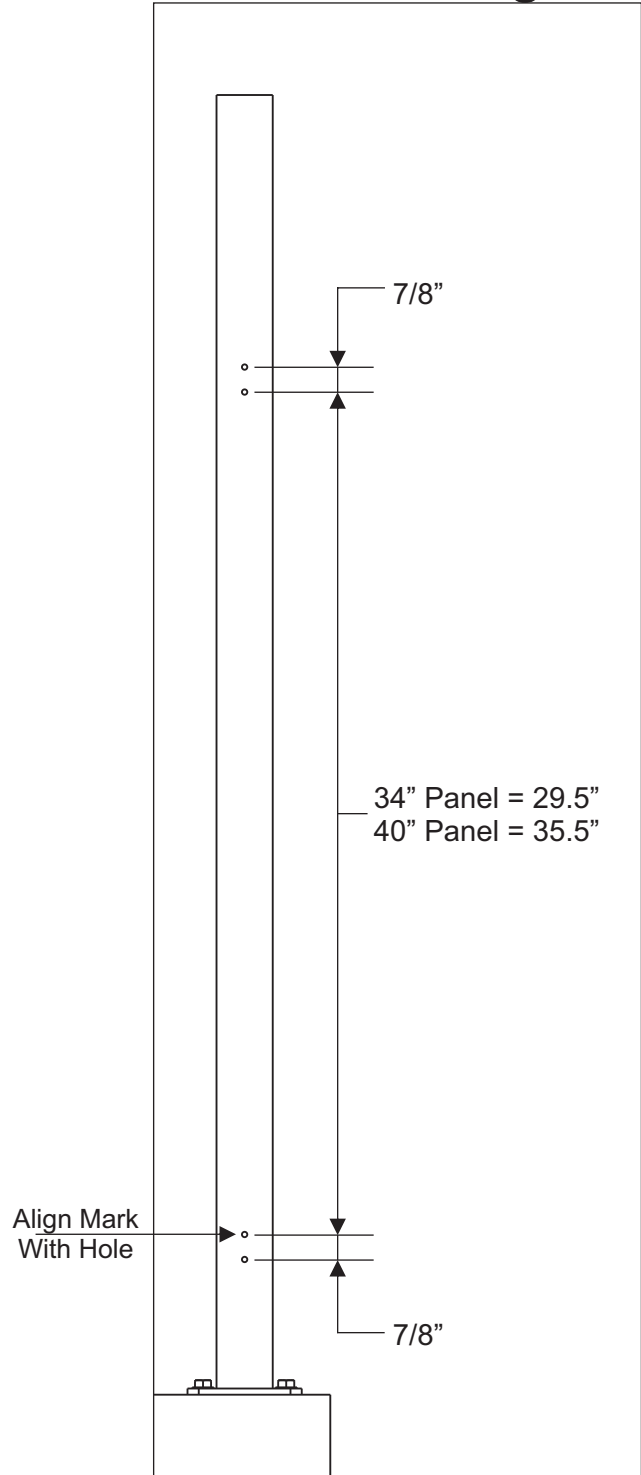
## Locate All Screw Holes

- Using the provided paper template, align the top hole for the bottom bracket on the template.
- Align the edge of the template to the side of the post.
- Mark all the hole locations for the brackets. There will be 4 holes total on each post.
- Alternatively, hole spacing is  $7/8"$  between the bracket holes and 29.5" for 34" panels and 35.5" for 40" panels.

### Template

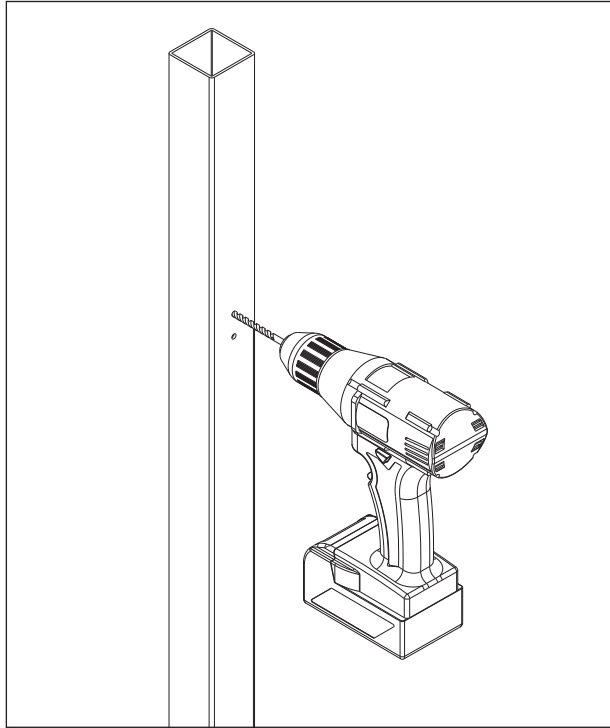


### Measuring

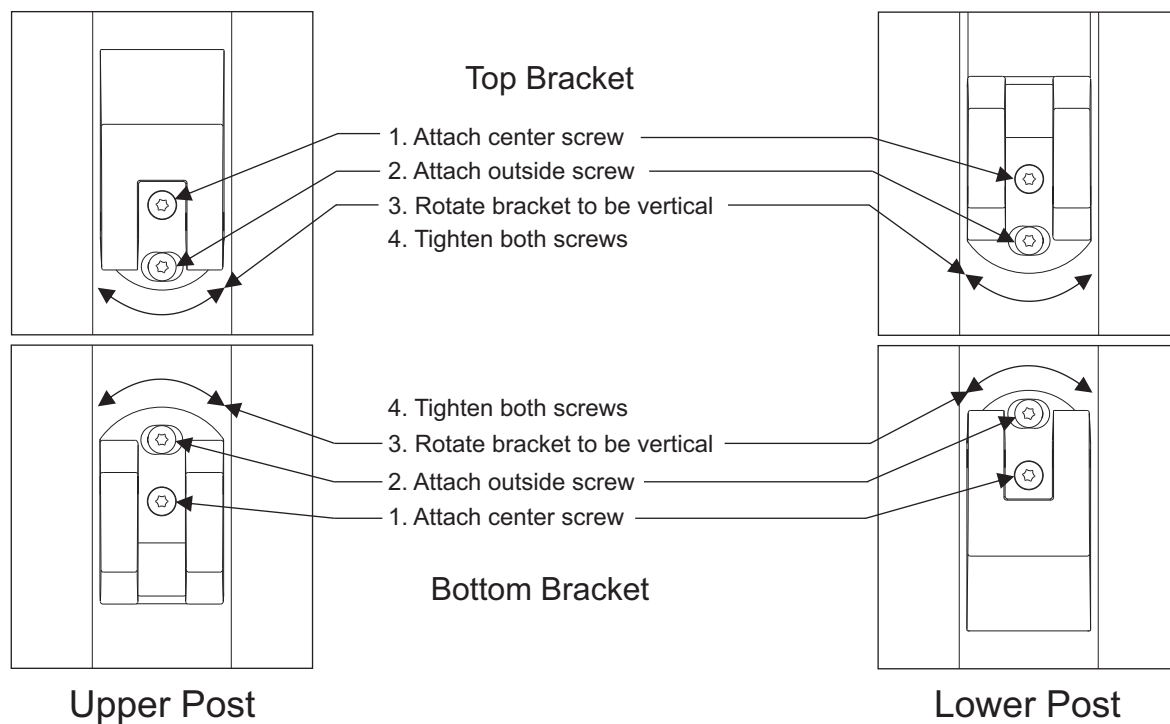


## Drill Holes to Mount the SSB-05 & Mount With Screws

- Drill out all 4 holes using a 3/16" drill bit.
- Remove metal shavings.

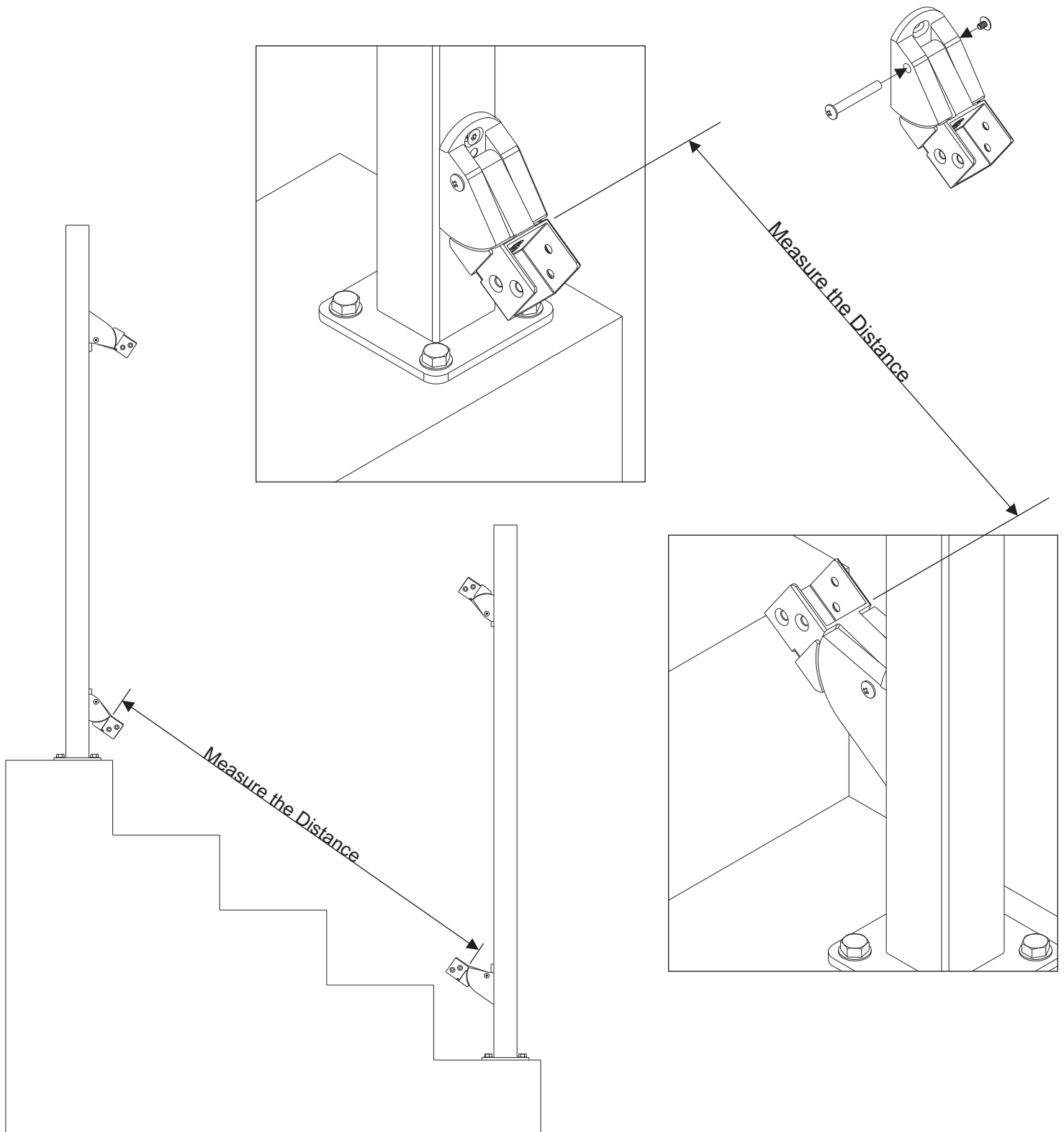


- Disassemble the brackets by removing the barrel and screw
- Attach each bracket using the T-25 screws provided. Attach the brackets to the post by the center hole first.
- The outside hole is slotted to allow for movement to make the bracket vertical. Once both screws are in place and the bracket is vertical, tighten the bracket to the post.



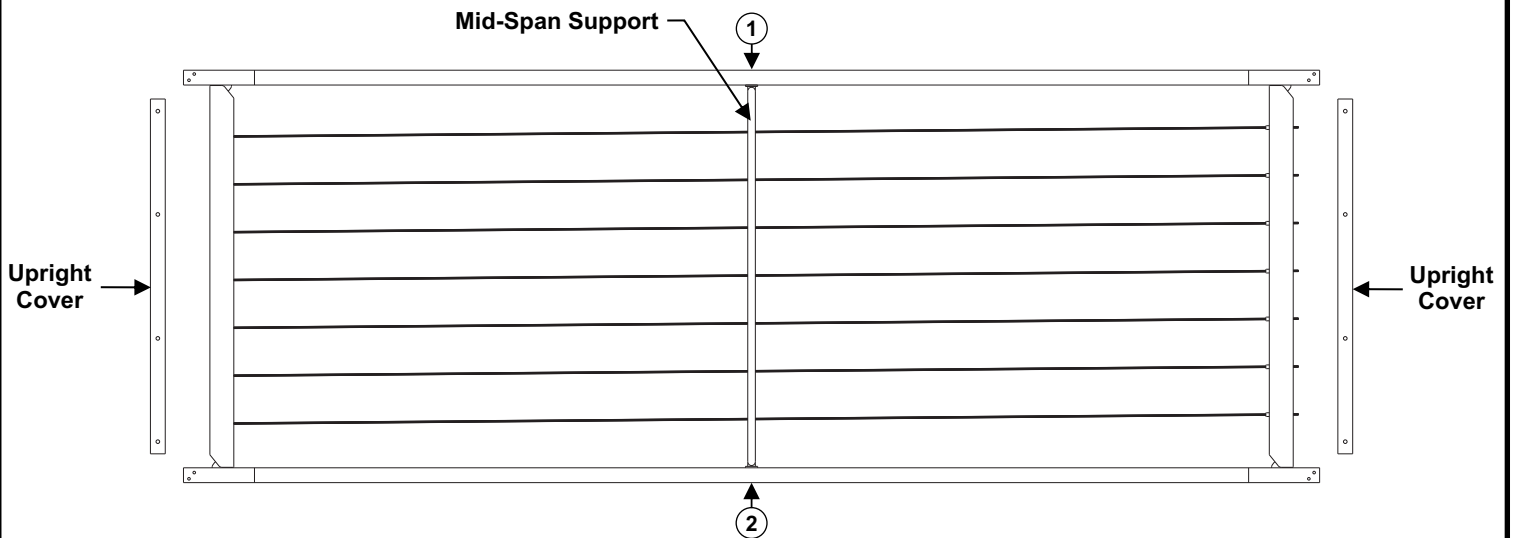
## Measure the Length of the Panel

- Reassemble the SSB-05 bracket.
- Measure the distance from inside edge of the bottom 2 brackets.
- Check that the distance is the same on the top brackets.
- If dimensions are different, check posts for squareness and make required adjustments.
- Use the dimension when cutting down the panels on page 8.



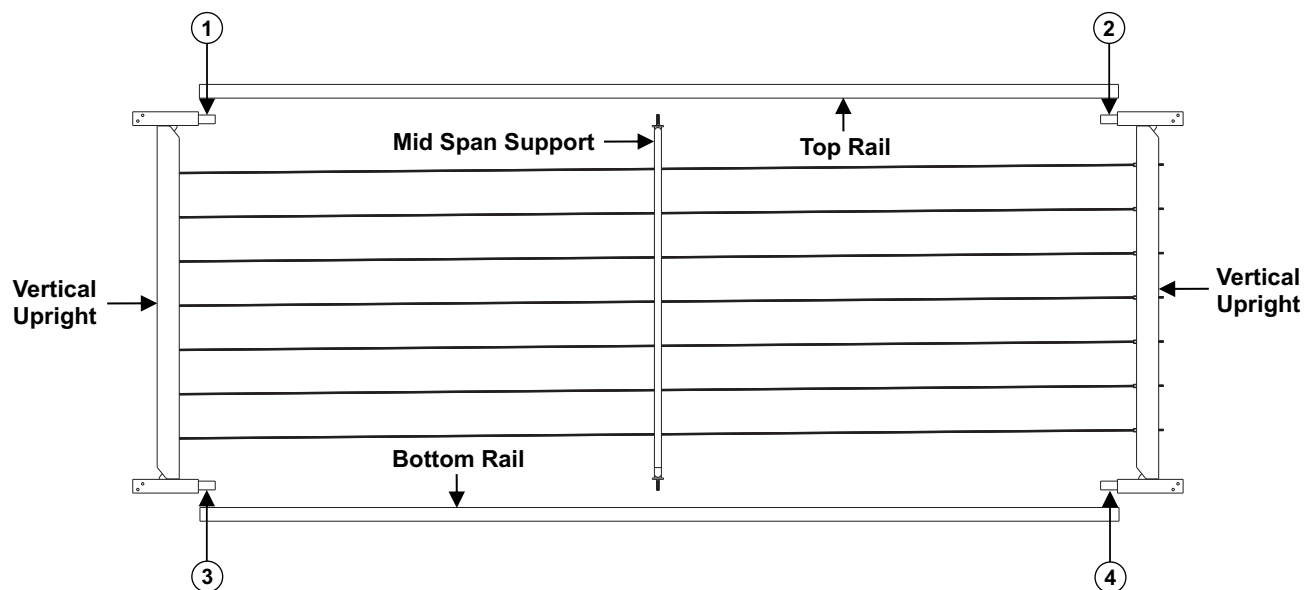
## Remove Vertical Upright Covers and Mid-Span Support

- Support panel on a flat work surface. Protect the product from scratching by placing cardboard on the surface.
- Use a M4 Allen wrench to remove the 4 button head cap screws that secure each upright cover in place.
- Place upright covers and screws to the side. (They will be reinstalled in later step.)
- Using a M4 hex wrench, remove the fasteners (1 & 2) holding the mid-span support.



## Removing Vertical Uprights From Rails

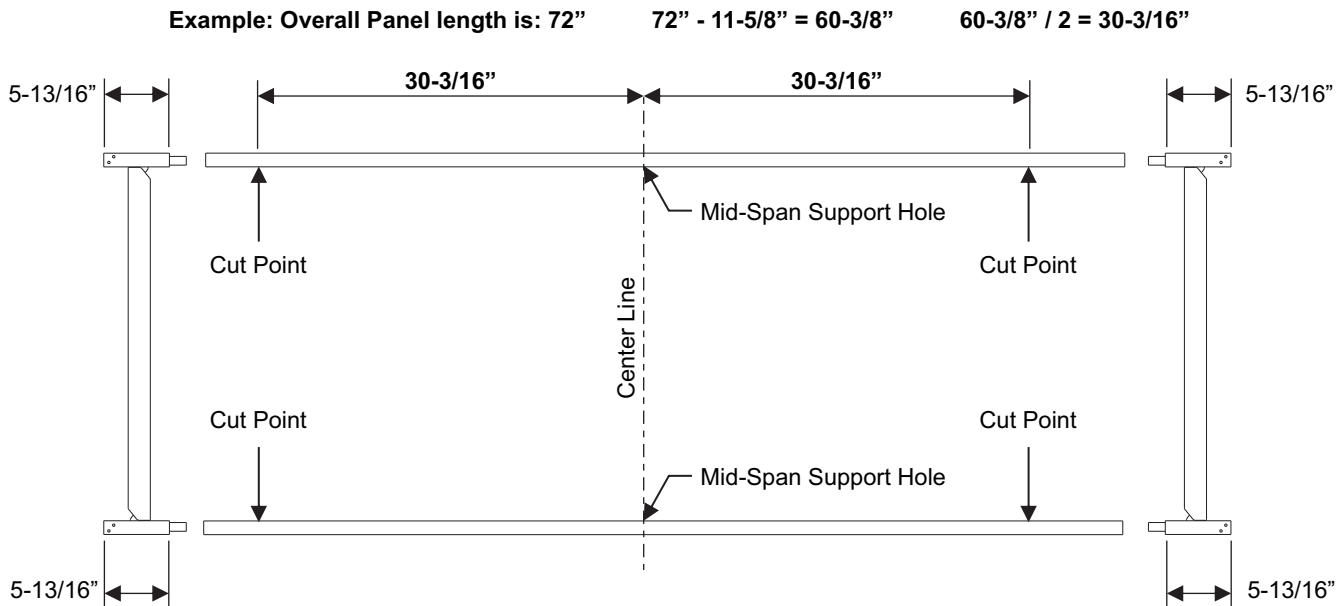
- Using a M4 hex wrench and M10 socket, remove the fasteners (1,2,3 & 4) holding the top and bottom rails to the vertical uprights.
- Use a rubber mallet to remove top rail and bottom rail from vertical uprights.
- Be careful not to scratch vertical uprights.
- Cables and mid-span support will stay together.





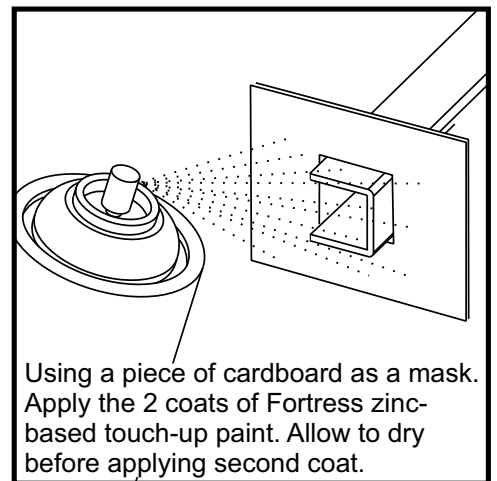
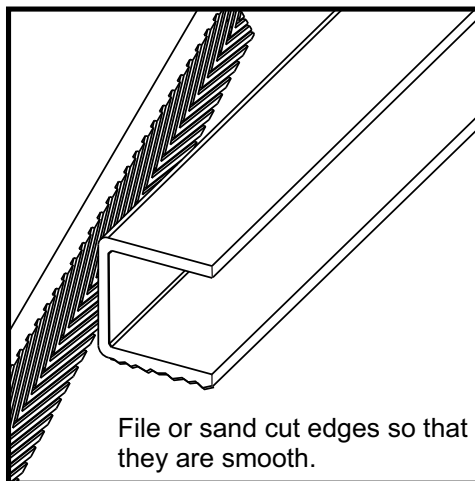
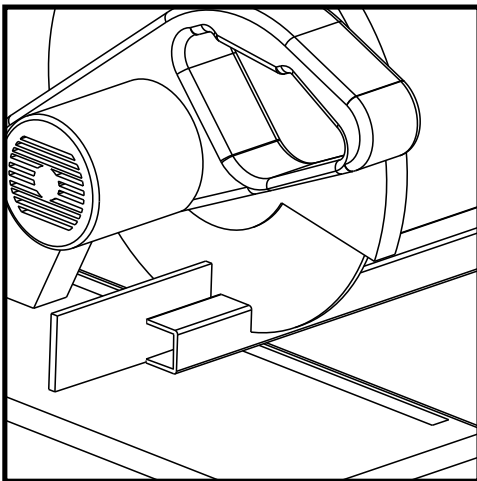
## Determine the Cut length FortressCable H-Series Rails

- When calculating how much rail must be cut from each end of rail, you must also include the length of the vertical upright rails. The length of each vertical upright rail is  $5\text{-}13/16''$ , so the total length to remove from each rail is  $11\text{-}5/8''$ .
- Use these formulas to cut your rails to the correct length.
- To keep mid-span support centered between posts, take an equal amount from each end of rail. Use the drilled mid-span support hole as your reference point.
- Divide each rail cut length by 2 to mark cut points.



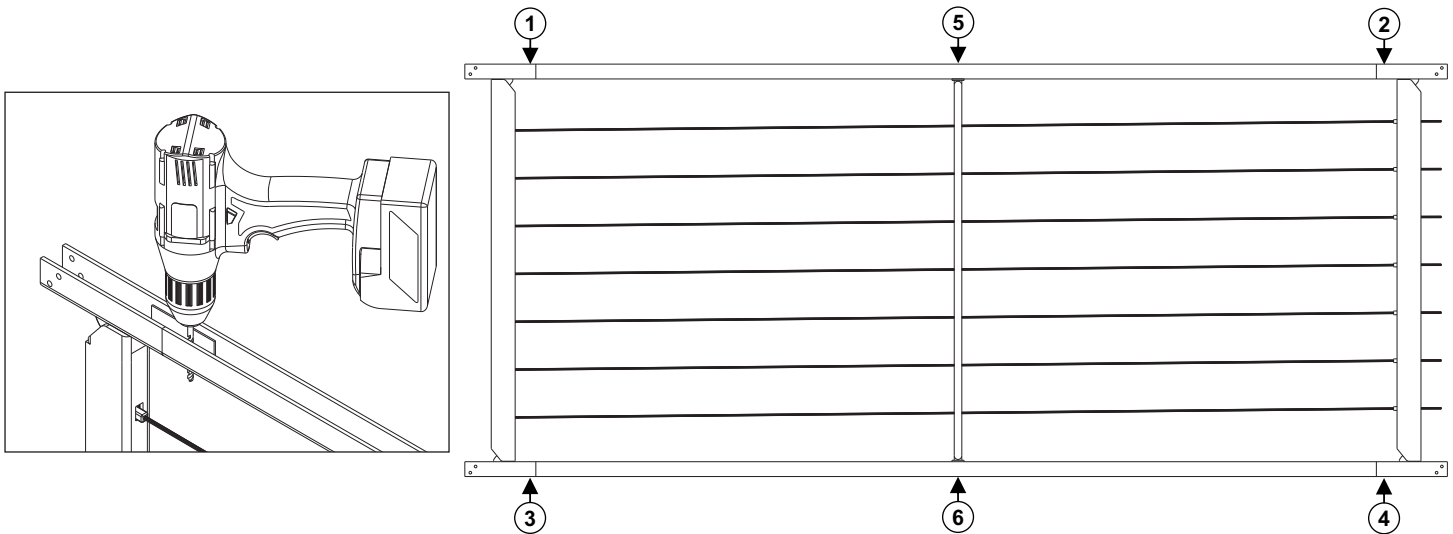
## Cutting Horizontal Cable Rails

- For best results use a miter saw with a metal cutting blade. Straight cuts are critical for a professional installation.
- File cut edges smooth.
- Apply two coats of Fortress zinc-based touch-up paint.



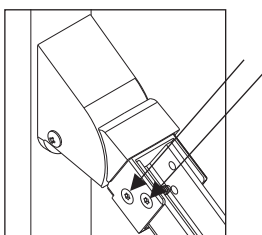
## Reattach Rails to Vertical Uprights and Mid-Span Support

- Position cut H-series rails onto the vertical uprights. Using the holes in the vertical uprights as a guide, use a 1/4" drill bit to drill to replace the holes that were removed when rails were cut to length.
- Remove metal shavings from drilled holes, file rough edges and apply Fortress zinc based touch-up paint.
- Use a M4 Allen wrench and M10 socket to reinstall the 4 button head cap screws and nuts (1,2,3 & 4) that secure the Top and Bottom Rails to the Vertical Uprights.
- Use a M4 socket to reinstall the 2 hex head bolts (5&6) that secure the mid-span support to the rails.

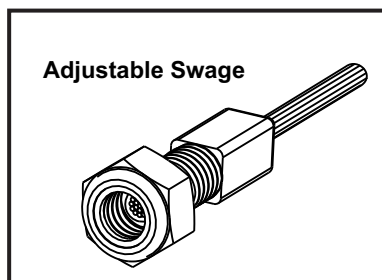


## Installing Panel and Pulling Cables Tight

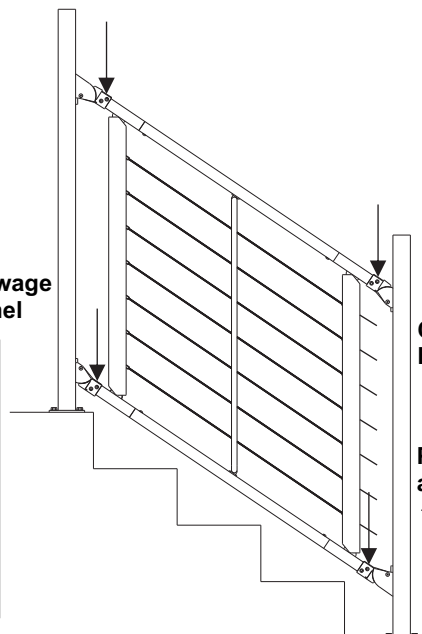
- Align rails with SSB-05 brackets and drop panel into place.
- The pre-drilled holes in the vertical uprights should align with the holes in the sides of SSB-05 brackets.
- Using the T-25 thread cutting screws supplied with the SSB-05 brackets, secure the rail to each SSB-05 bracket using 2 screws in each bracket.
- Back hex nut offs until they are almost removed from the adjustable swage. You will need the full length of threads to properly tension the cable in the next step.
- Apply inward pressure to cable clamp as excess cable is removed.
- Pull exposed cable through the cable clamp to remove excess cable.



Adjustable Swage  
End of Panel

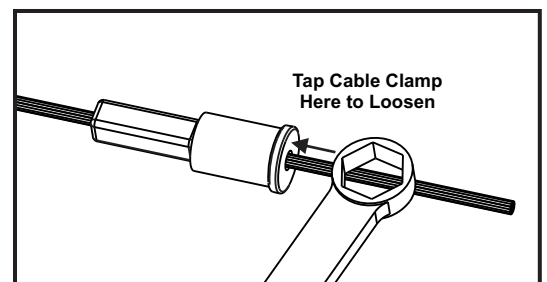


Adjustable Swage

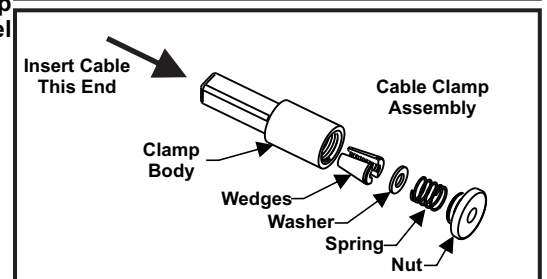


Cable Clamp  
End of Panel

Pull Cables  
at This End



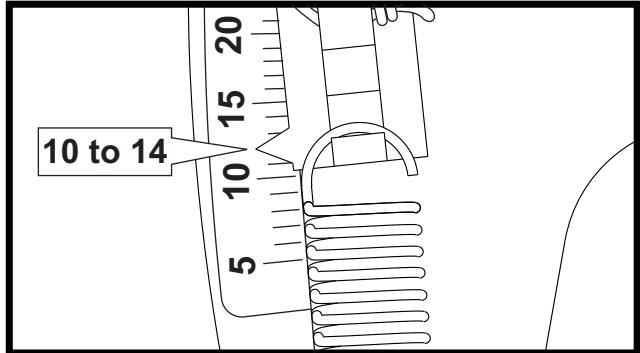
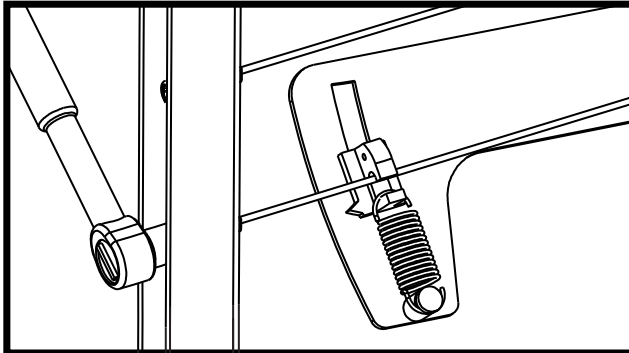
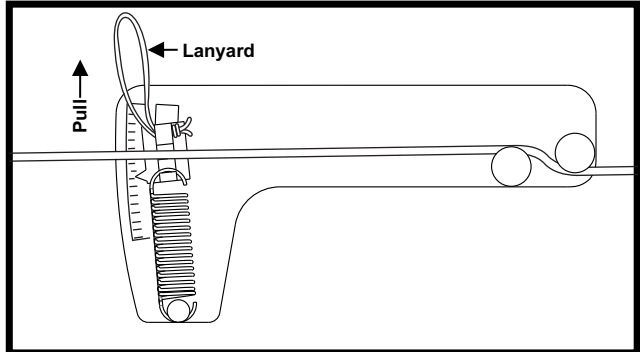
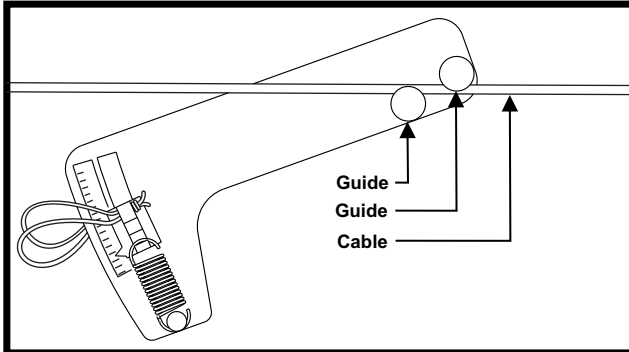
Tap Cable Clamp  
Here to Loosen



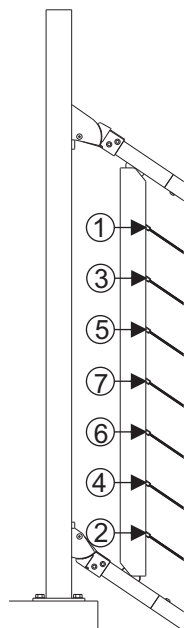
## Tightening the FortressCable H-Series Cable System

### DO NOT Over Tighten Cables

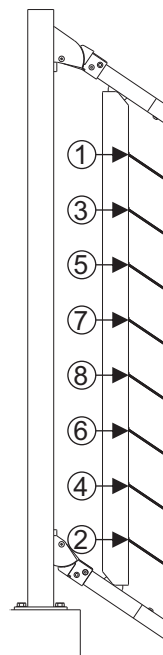
- A properly tensioned cable should be tensioned until the indicator reads between 10 and 14.
- Use a Fortress Cable Tension Gauge to accurately tension the cables.
- See images below for information on how to load cable into the tension gauge.
- Position cable between lower guides.
- Pull the lanyard and extend the spring until the cable is engaged with the hook in the indicator slide.
- The Fortress Vertical Cable System uses 1/8" diameter cable.
- Remove cable slack from cable before tightening.
- Use a 13mm Socket Wrench to tighten the cables in the sequence shown below.
- Tighten cable until the indicator arrow is between 10 and 14 on the tension gauge.



**34" High Rail Sequence**

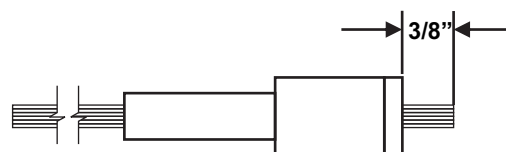
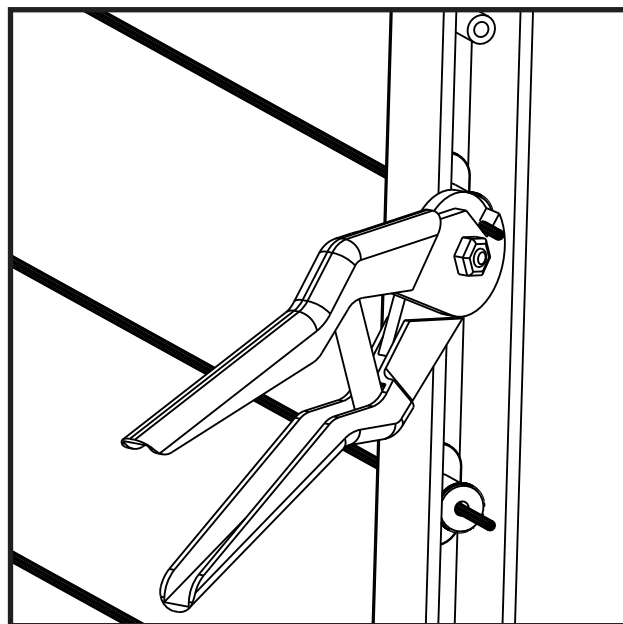
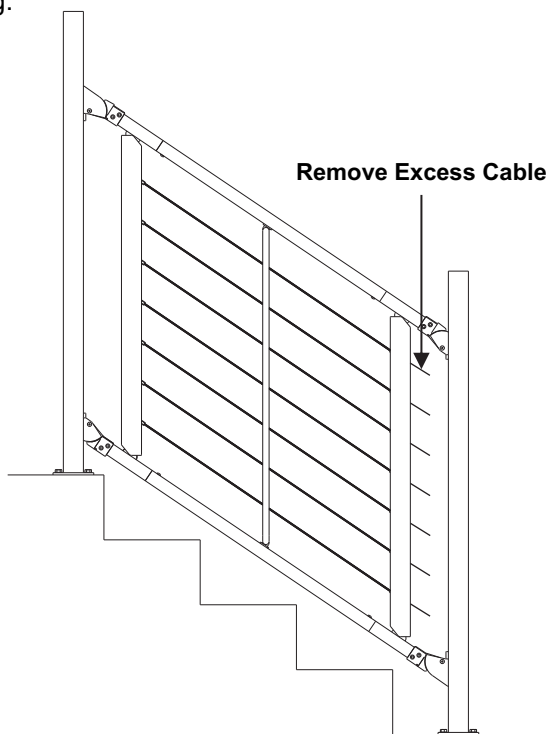


**40" High Rail Sequence**



## Cut Excess Cable Length

- After cables have been tensioned, use Fortress wire cutters to cut excess cable at the cable clamp end of panel.
- Cables must not extend more than  $\frac{3}{8}$ " from cable clamp after cutting.



## Reinstall the Vertical Upright Covers, ATR, and SSB-05 Covers

- Use a M4 Allen wrench to install the 4 button head cap screws that secure each upright cover in place.
- Measure the distance between the 2 bracket lips, and cut ATR the same way as the panel rail.
- A minimum of two ATR Spacers are required in order to ensure proper fit of ATR.
- Apply a quarter-sized drop of epoxy to the side walls of each ATR Spacer. Follow cure times specified on epoxy packaging.
- Install ATR onto rail and wipe away any excess epoxy with a clean cloth. Do not apply any force to installed ATR for 2 hours.
- Snap the SSB-05 covers into place on bottom brackets.

