



Express Railing System Surface Mounted - Angle Run Installation Guide



Table of Contents

Read over the provided material prior to the start of your installation

Site Preparation	2
Angle Post Installation	3
Angle Handrail Installation	6
Angle Cable Infill Installation	9

Tools Needed for this Installation

- Measuring Tape
- Chalk Line Tool
- Speed Square
- Pencil
- Drill
- $\frac{13}{64}$ " Metal Drill Bit
- Hand Rivet Tool (Provided)
- T-30 Torx Bit (Provided)
- Post Level (Provided)
- String (Provided)
- Phillips Screw Driver
- $\frac{3}{16}$ " Allen Wrench (Provided)
- $\frac{5}{32}$ " Allen Wrench (Provided)
- Painter's Tape
- Miter Saw w/ Aluminum Cutting Blade
- Dead Blow Hammer
- Bar Clamps
- Cable Cutter (Provided)
- Cable Crimper (Provided)



Things to Know Before You Get Started

Read over the provided material prior to the start of your installation.

Make sure you have all of the posts, brackets, screws, cable and components needed for your installation.

When opening up the cable, it may help to open the spool inside a 5 gallon bucket to help control the cable.



Site Preparation

Preparing Your Project

1. Before beginning, it is important to review your project's shipping list and confirm you have received all your products. If you have not, please reach out to our customer service team as quickly as possible.
2. If you received your project from our Sales Team, refer to the provided layout drawing. If you created your own project, it will be helpful to draw your railing layout. Viewrail recommends a maximum of 48" between each post in your cable run.
3. Our Express railing system utilizes three types of posts: End Posts, Line Posts, and Corner Posts. You may or may not have all of these in your system.
4. Place each post you've received on your mounting surface according to the drawing you've received or created. **(fig. A)**
5. At this point, it will also be helpful to layout your handrails and make sure you are using the correct lengths with the relevant runs.
6. Finally, it may be helpful to prepare and set aside your cable hardware for each post. Refer to the hardware shown in **(fig. B)** to help. Setting aside your cable hardware will not only ensure you have the correct fittings, but will also help you understand the orientation of the posts.

Tip: When accounted for, set aside each post's hardware in a box or baggy to make sure they do not become lost.

Figure A

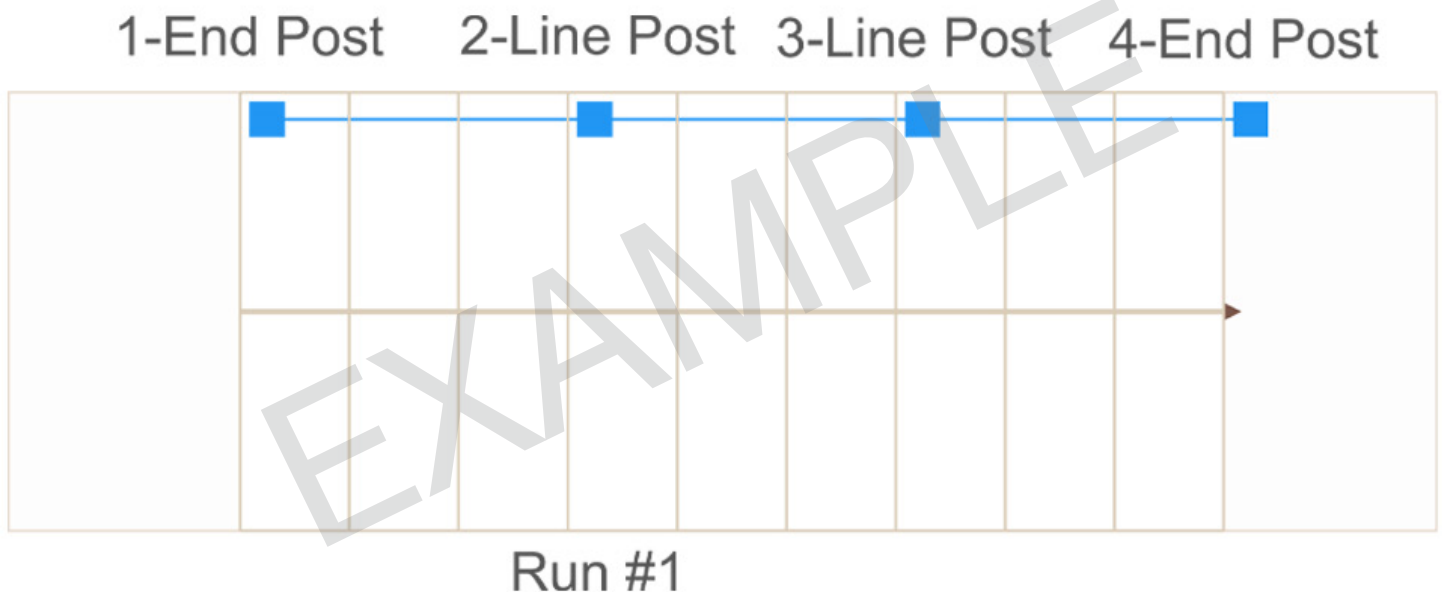
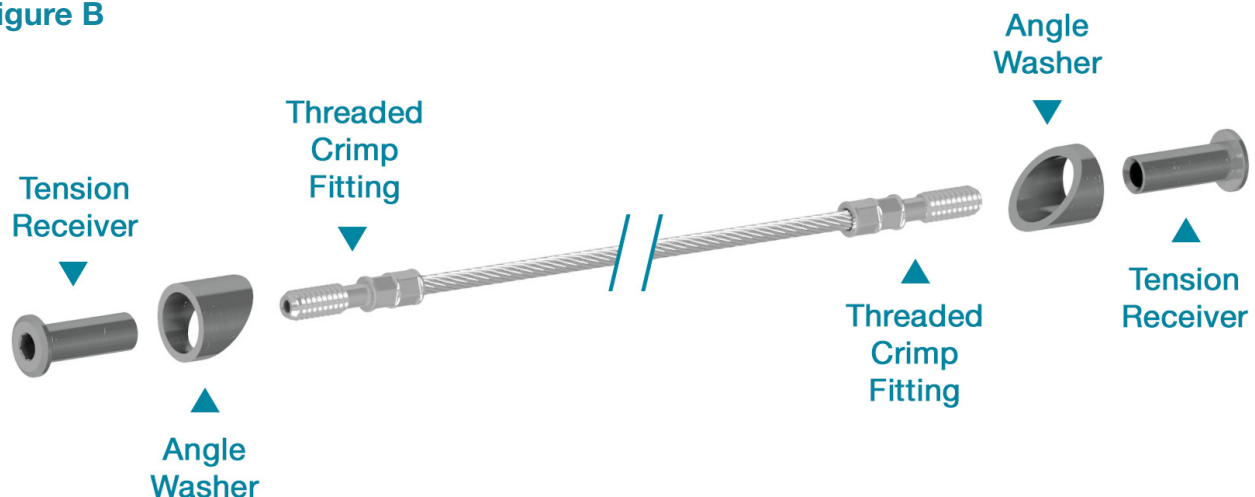
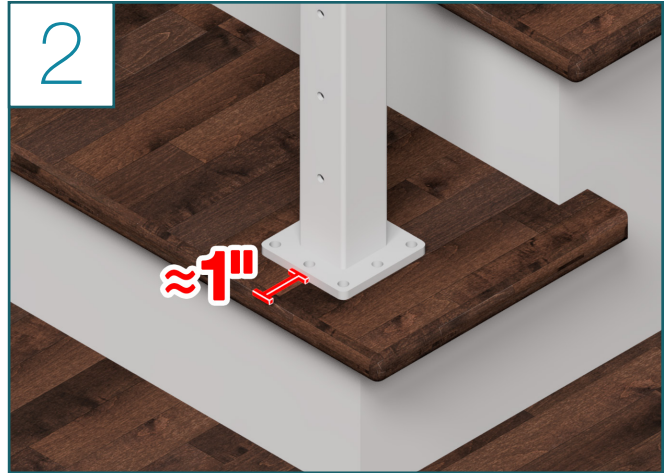


Figure B



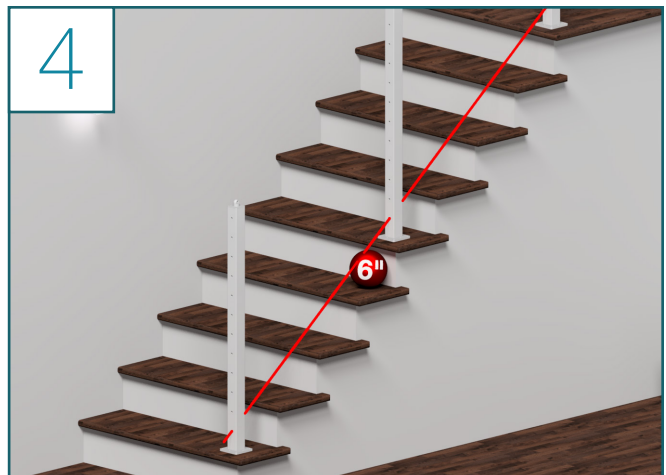
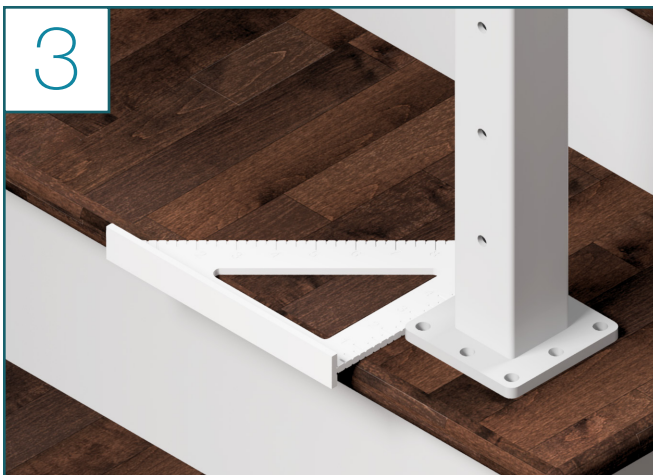
Angle Run: Post Installation



- When mounting your angle posts it is important to make sure your posts are:
 - Mounting over 4" of solid blocking
 - In line with each other
 - Square to each other

- Place each post toward the front edge of your tread, staying behind the nosing on the tread far enough so the cable does not hit the tread (typically about an inch)
- Ensure that the pre-drilled holes in your angled posts are pointed toward the top of your stairs

Note: The lower of the offset holes should be pointing downwards towards the bottom of the stairs.



- Use a speed square to set each post equally off the front of the tread
- If applicable, use the speed square to set each post equally off the side of the tread
- These two steps should ensure your posts are in line and square.

- Run a string through the bottom hole of all the posts to ensure that the lowest cable in your run will not run into your tread nosing

Express Railing System - Angle Run Post Installation Steps (Continued)

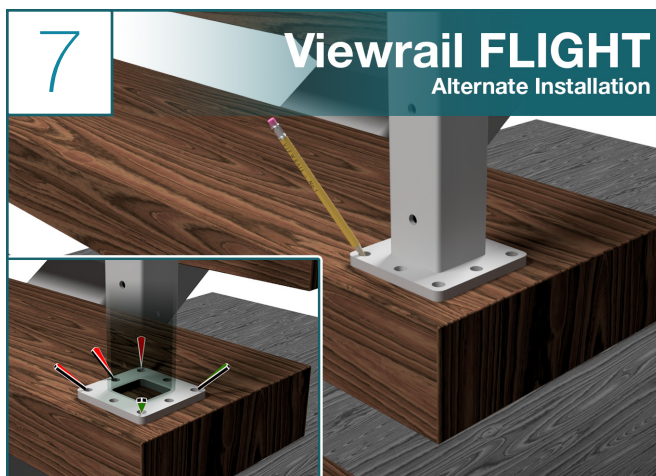


- When satisfied, use a pencil or pen to mark each mounting hole in each post foot plate
- Set posts aside

Note: Make sure to use at least one hole per side of the post. For example, use all four middle holes, or all four corner holes.



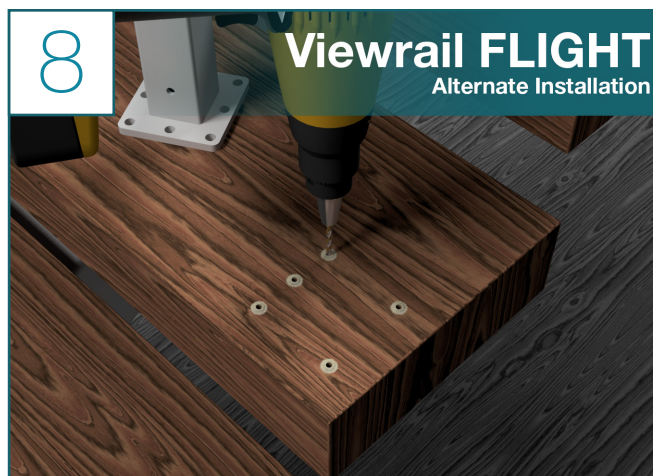
- Use a $\frac{3}{16}$ " drill bit to pre-drill the post mounting holes to an approximate depth of $3\frac{1}{2}$ "



If mounting post on to Viewrail FLIGHT treads

- Place the post on the correct tread
- Mark a minimum of 5 hole locations
- Ensuring to utilize all 3 holes on the inside of the foot (highlighted in red above)

Note: The edge of the post foot should be no closer than 1" to any edge of the tread



If mounting post on to Viewrail FLIGHT treads

- Remove the post from the tread
- Using a $\frac{13}{64}$ " wood drill bit, drill a pilot hole for each marked location
- Pilot holes must be $2\frac{1}{2}$ " when using the 3" hex lag screws

Express Railing System - Angle Run Post Installation Steps (Continued)



If mounting post on to traditional stair treads

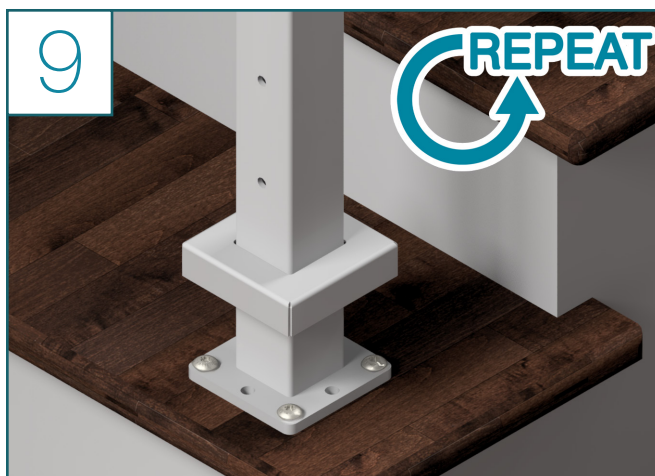
- Replace the post over your mounting holes
- Use the T-30 bit and populate your pre-drilled holes with the provided screws

If mounting post on to Viewrail FLIGHT treads

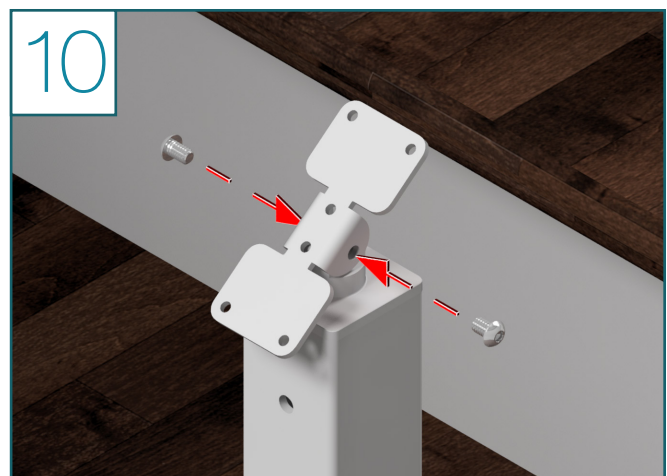
- Place the post back on to the tread and align the holes
- Using a $\frac{7}{16}$ " socket on an impact drill or socket wrench, secure (qty 5) 3" lags into the tread



- Using the provided post level, ensure that your post is plumb
- If the post is not level, back out the mounting screws slightly, apply shims as needed, and fasten the screws



- Slide the foot cover over the top of the post foot
- Repeat steps 6-9 until all posts have been mounted

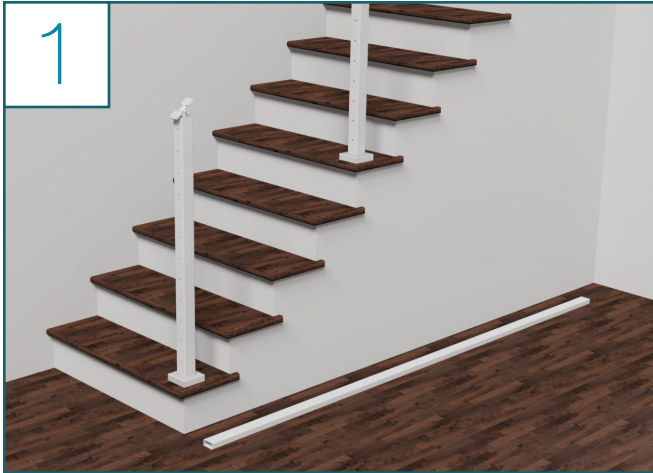


- Position the handrail bracket on the top of the dome and insert a hex screw into each side of the bracket
- Use the hex screws to secure the handrail bracket at the appropriate angle.

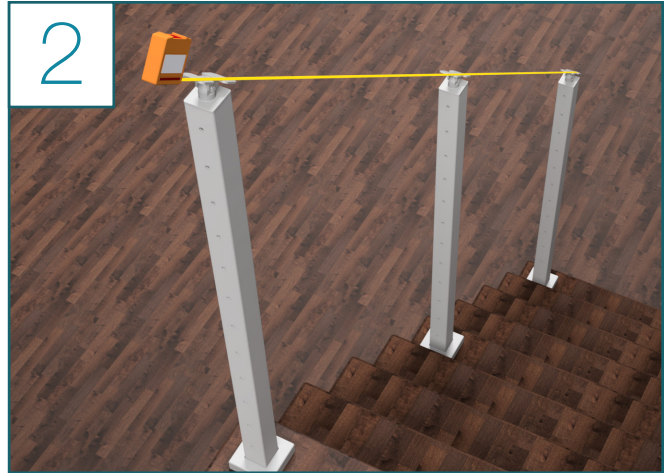
Congratulations! You're done with this section.

We'd love to see your work! Snap a few pics with your phone and send them to pictures@viewrail.com. Thanks for choosing Viewrail. Enjoy your new installation!

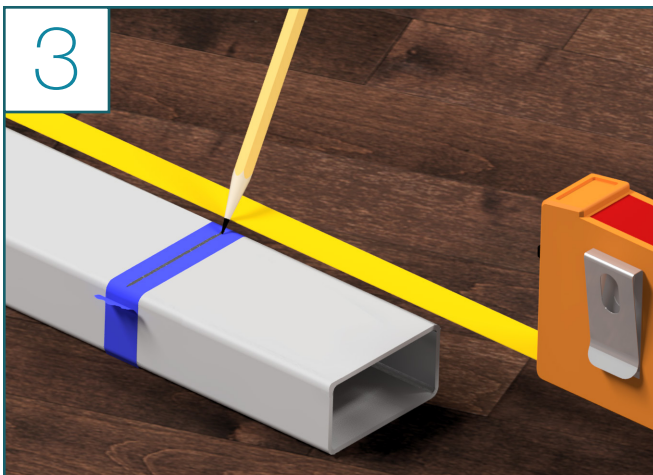
Angle Run: Handrail Installation



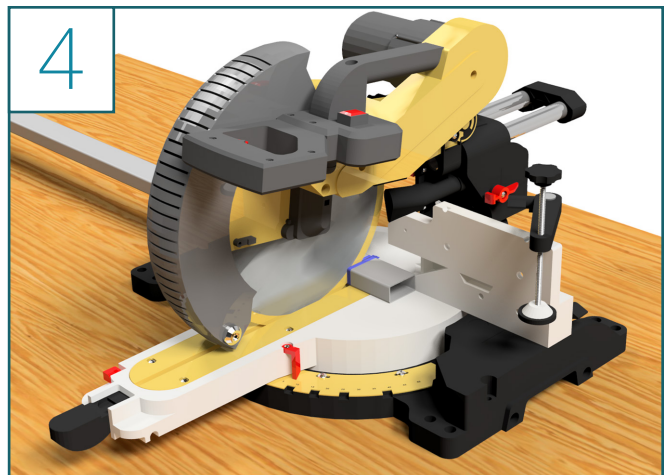
- Before mounting any handrail, lay out your handrail for each run and make sure you have correct lengths



- Measure the length of your run, or however far you would like the handrail to extend past each bracket



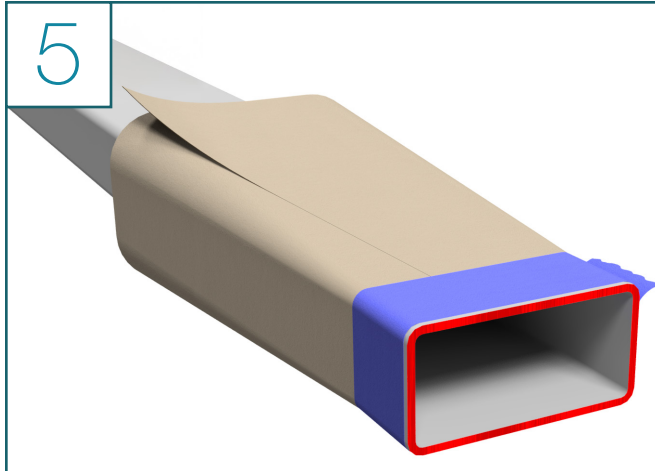
- Place painters tape on the area of the handrail you will be cutting, and mark where you will cut the handrail on the tape



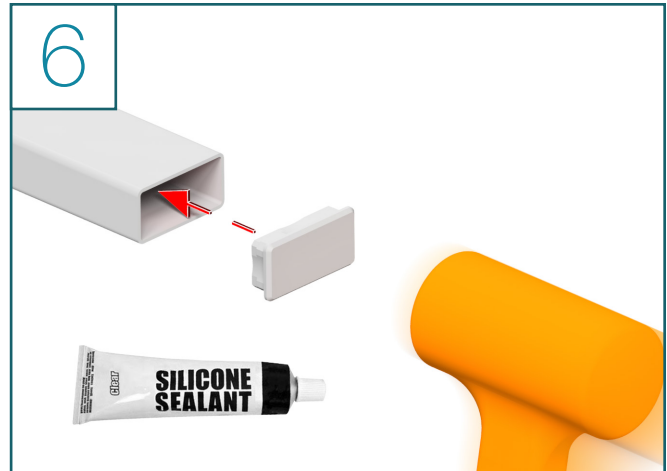
- Use a chop or miter saw to cut the handrail at the mark you made
- Make sure you are using a blade rated to cut the handrail material*
- Remove the tape from the end of your handrail

**Note: We recommend using a blade rated for non-ferrous metal/laminate/aluminum.*

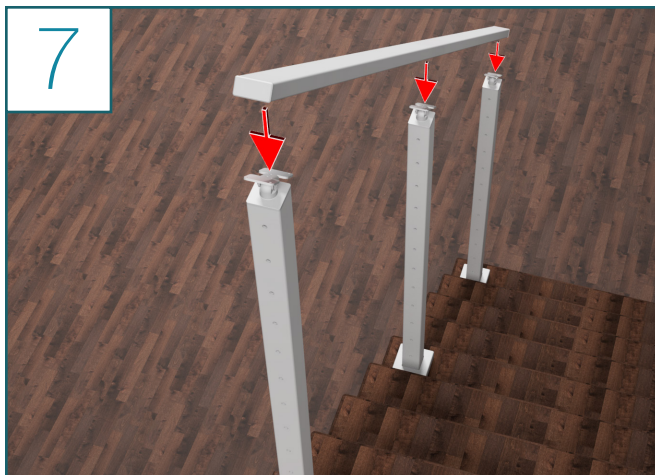
Express Railing System - Angle Run Handrail Installation Steps (Continued)



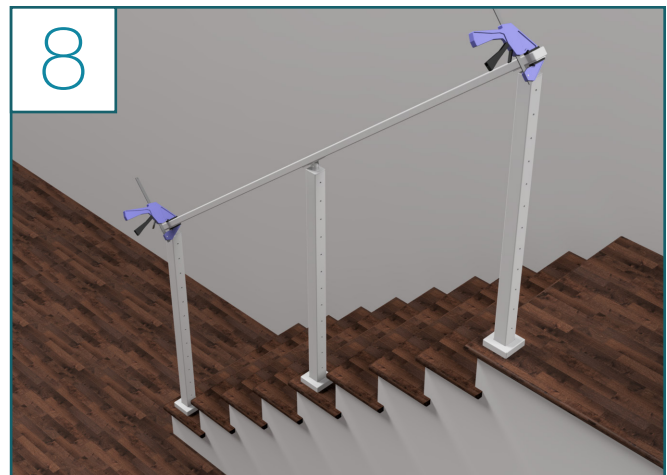
- Mask off the powder coated finish near the newly cut portion of the handrail
- Clean the exposed surface of any loose metal shavings
- If provided with your order, apply Zinc Phosphate Primer and allow to dry (Coastal Applications Only)
- Using the supplied touch up paint, coat the exposed metal end - more than one coat may be needed



- If you have a metal handrail, place the end cap over the open end of the handrail and gently tap it into place using a dead blow hammer or rubber mallet
- You can use silicon or a similar adhesive if desired

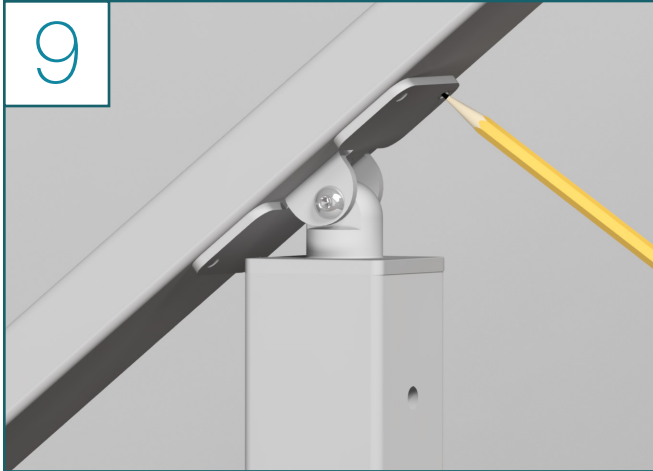


- Center the handrail on top of the handrail brackets



- Clamp the handrail to the first and last handrail brackets in a run
- On angled runs, it will be necessary to clamp the lowest side of the bracket
- Make sure the clamp has rubber padding - This will keep the handrail in place while you drill into the handrail

Express Railing System - Angle Run Handrail Installation Steps (Continued)



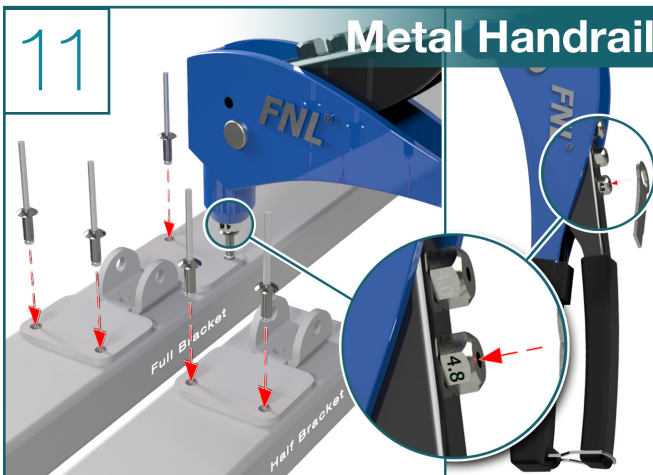
- Using a pencil, mark the bracket outline or 4 outside holes for the handrail screws
- Once finished marking the inside posts, move the clamps from the outside posts to the inside posts
- Repeat this process on the outside posts

Note: There are 2 holes on each side of the handrail bracket. For a secure and stable connection, you will be populating all 4 holes.



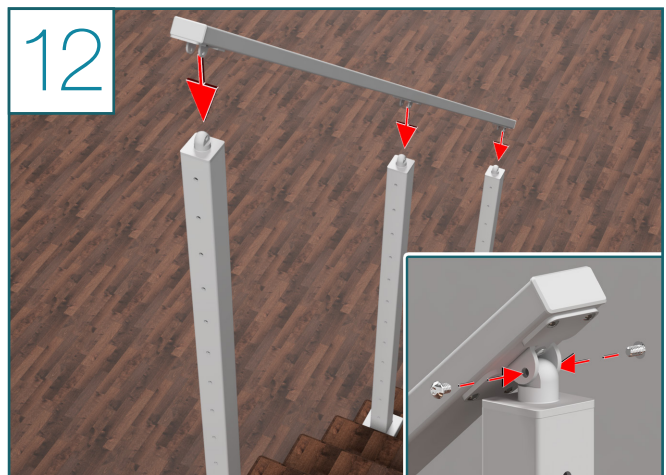
- Remove the clamps and the handrail
- Set the handrail upside down on a protected surface
- Remove the dome screw and then the bracket top and place them on the upside down handrail so that they line up with the marks made in the previous step
- Pre-drill and populate the holes of the clamped brackets using a $\frac{13}{64}$ " drill bit and the provided mounting screws

Note: Use Screw Wax to aid in drilling.



- Attach the handrail brackets to the handrail with the provided $\frac{3}{16}$ " rivets
- Populate a minimum of 2 holes per side

Note: The $\frac{3}{16}$ " rivets will require you to change the rivet head on the provided Hand Rivet tool. Using the wrench provided with the tool, swap out the "3.2" rivet head for the one that has "4.8" stamped into the side.

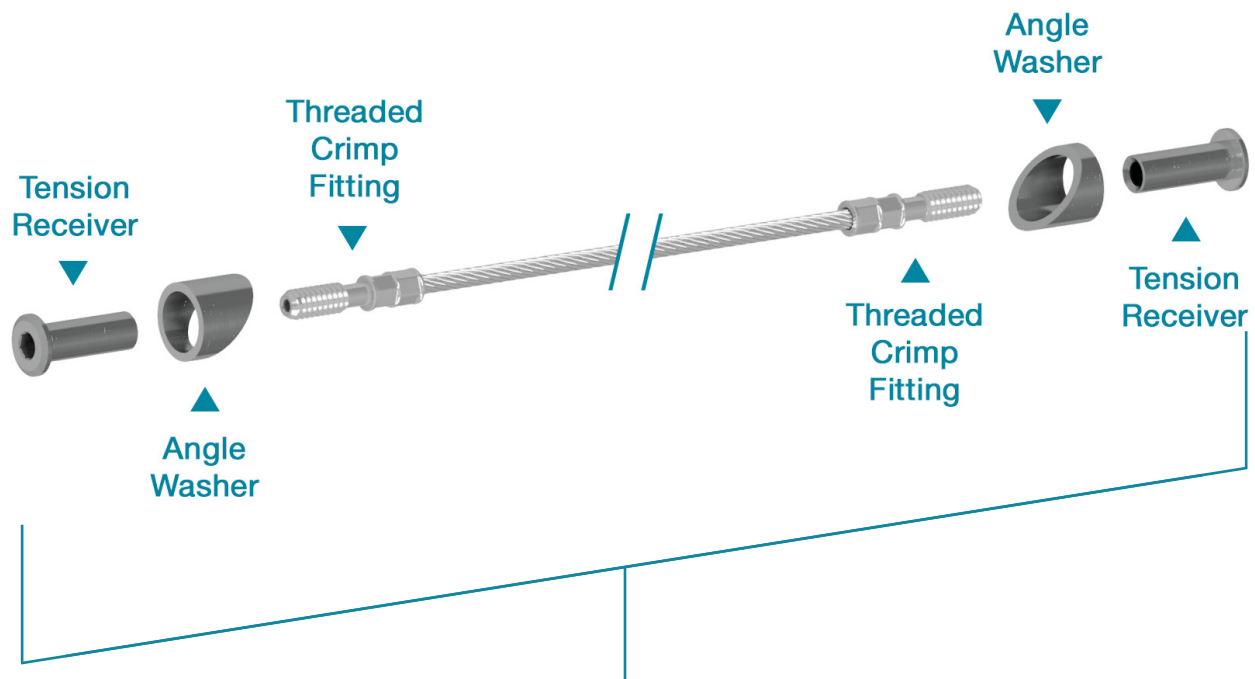


- Picking up the entire assembly, set it in place over the posts and reattach the handrail bracket to the top of each post
- Your handrail should now be installed

Congratulations! You're done with this section.

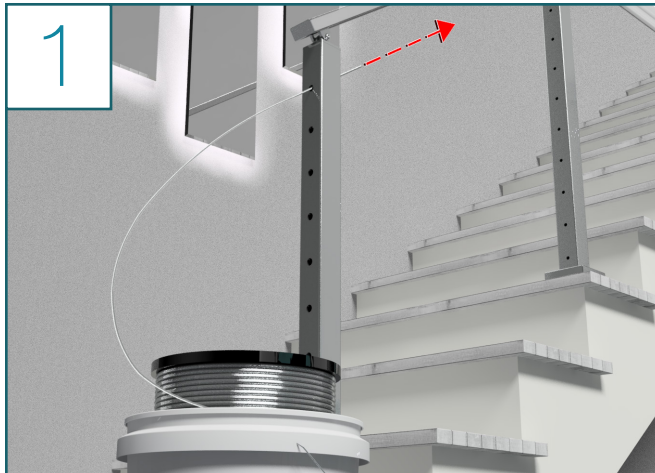
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Angle Tension Kit to Angle Tension Kit



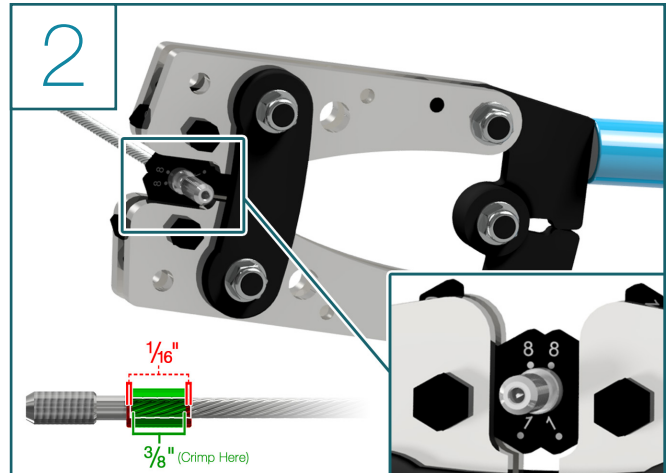
Angle Tension Receiver

Express Railing System - Cable Infill - Angle Tension Kit to Angle Tension Kit Installation Steps

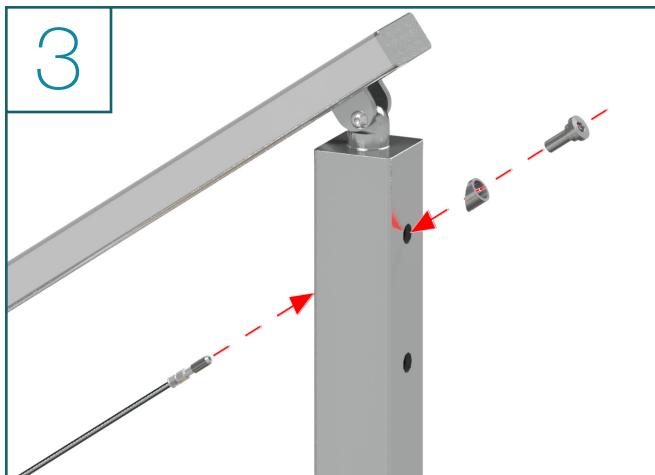


- Take the loose end of your cable spool and slide the cable through the posts on the run you are working on
- It is typically easiest to run the cable up through the bottom post towards the top post

Note: It is a good idea to put the spool of cable into a 5 gal. bucket to help prevent rabid unspooling of the cable.



- If needed, adjust the die setting on the head of the crimping tool so that it shows a "1" and an "8" on both sides as shown above
- Once the cable passes through the final post on the run, crimp a Threaded Crimp Fitting onto the end of the cable
- Crimp the Threaded Crimp Fitting then turn it 90° and crimp it again

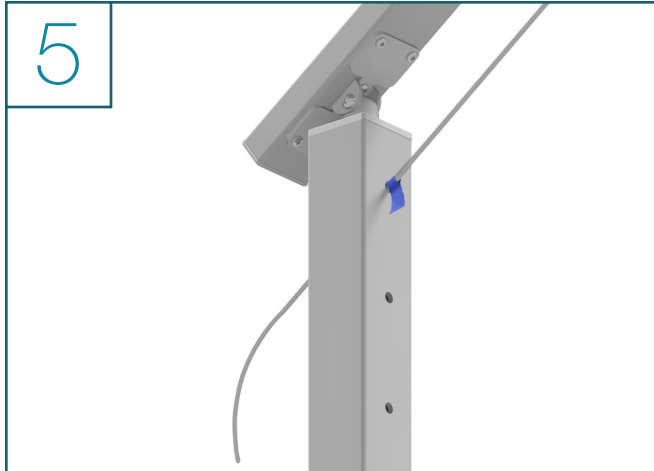


- Slide a Angle Washer over the Threaded Crimp Fitting
- Thread a Tension Receiver onto the Threaded Crimp fitting four full turns

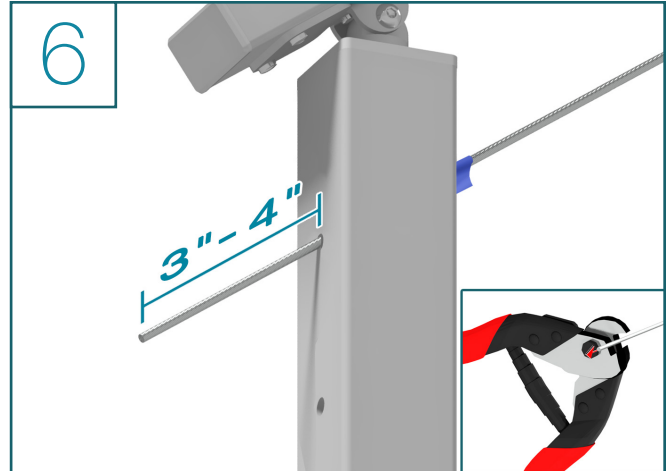


- Pull the cable back against the post so the Tension Receiver is pulled into the Angle Washer
- Ensure the Angle washer rests flush against the side of the post

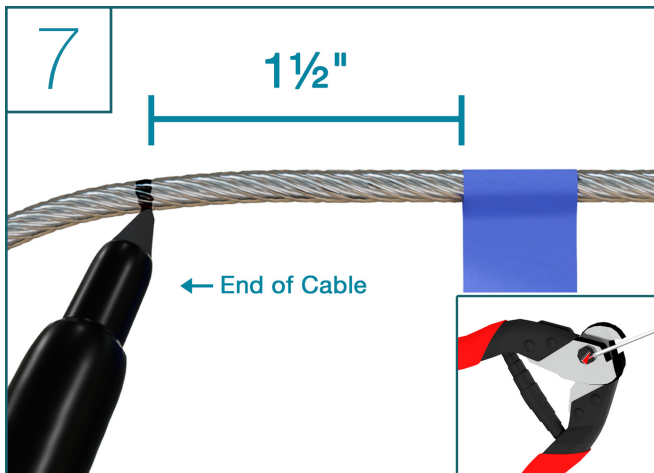
Express Railing System - Cable Infill - Angle Tension Kit to Angle Tension Kit Installation Steps (Continued)



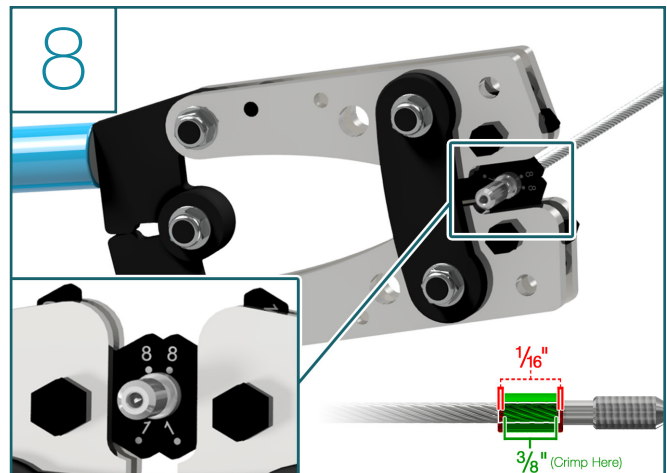
- Return to the other end of the run where the Angle Tension Kit will be installed nearest the spool, and pull the cable tight for the full run
- Place painter's tape on the cable where the cable meets the inside edge of the post



- Use the side cutting tool located below the main crimping head to cut your cable
- Slide the cable through the cable cutter and cut the cable 3" - 4" extra past the outside edge of the post

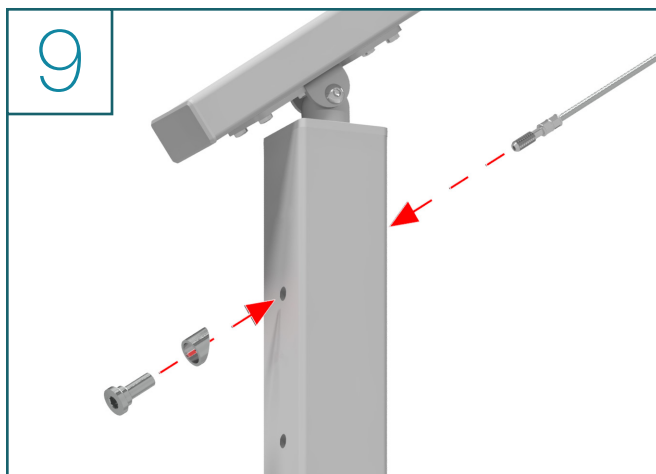


- Remove the cable from the post
- Add and mark 1 1/2" past the painter's tape
- Cut the cable on this mark



- If needed, adjust the die setting on the head of the crimping tool so that it shows a "1" and an "8" on both sides as shown above
- Crimp a Threaded Crimp fitting onto the second end of the cable
- Crimp the Threaded Crimp Fitting then turn it 90° and crimp it again

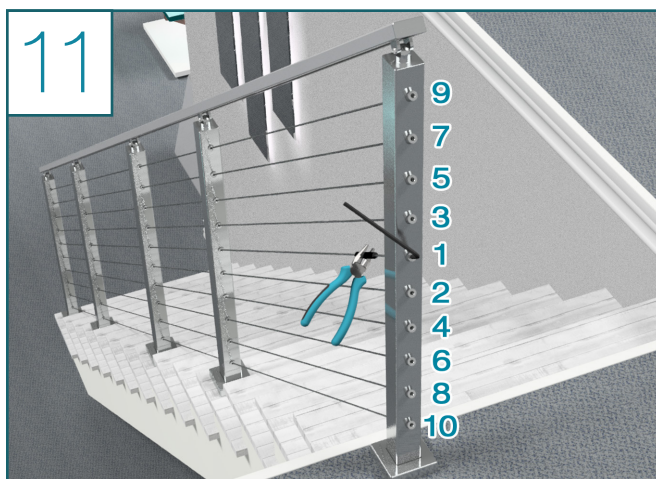
Express Railing System - Cable Infill - Angle Tension Kit to Angle Tension Kit Installation Steps (Continued)



- Insert the Threaded Crimp Fitting into the hole on the inside face of the post
- Then, insert the Tension Receiver through the Angle Washer and then into the hole on the outside face of the post
- Meet both in the middle of the post and thread the Tension Receiver onto the Crimp Fitting four full turns



- Slide the protective Neoprene Sleeve onto the cable near the post you are working on
- Firmly grasp the sleeve with pliers and use the supplied $\frac{3}{16}$ " Allen wrench to tighten the Tension Receiver only snug enough to hold in place



- After all the cable runs are done use the Allen wrench to tighten the remaining side of the cable run in sequence
- Holding the cable with the pliers & neoprene sleeve, tighten until the cable is taut and then turn the Tension Receiver another half turn

***Before tensioning any cable infill, please ensure all posts and handrail are fully installed.**

Congratulations!
You're done with this section.

We'd love to see your work! Snap a few pics with your phone and send them to pictures@viewrail.com.
Thanks for choosing Viewrail. Enjoy your new installation!