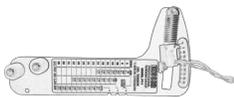


Recommended Tools

- Safety Glasses
- Tape Measure & Pencil
- Level
- Drill & Bits ($\frac{1}{4}$ " , $\frac{3}{16}$ " , $\frac{1}{32}$ ")
- Hammer Drill (if concrete)
- Circular Saw w/ Fine-Tooth Aluminum Cutting Blade
- Rubber Mallet
- Socket Wrench ($\frac{7}{16}$ " socket)
- Stainless Steel Cable Cutters

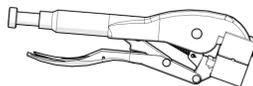
● Available from Key-Link



● Tension Gauge



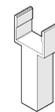
Air Ratchet
(optional)



● Cable Gripping Pliers

What's Included

- Top & Bottom Rail w/ Cables attached
- Mounting Brackets & Screws
(Posts, Caps, & Trim packaged separate)
- Stainless Steel Support Rods
- Flange Nuts
- Snap on Section Support
(For sections over 6')



Snap on Section Support



Top Level Bracket



Flange Nuts



Bottom Level Bracket



#12 Flat-Head Screws



#10 Pan-Head Screws

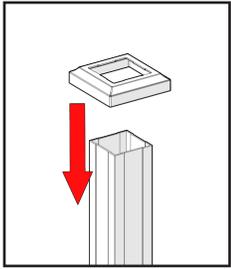
Tip: Wear clean, new gloves when handling stainless steel parts to prevent corrosion from oil and dirt.

- These directions are only a guide and may not address every situation.
- Always wear proper safety equipment while assembling and installing.
- The installer should obtain all required building permits and follow all installation procedures in accordance with applicable building code requirements.
- Key-Link Fencing and Railing Inc. shall not be held liable for improper or unsafe installations.
- Applying paint, other than Key-Link's touch up paint, will void your warranty.
- To ensure proper coverage by our warranty please visit our website and complete the warranty form and mail to: Key-Link Fencing & Railing, Inc., 260 Jalyn Dr., New Holland, PA 17557



WARNING: This product can expose you to chemicals including Quartz (crystalline silica), which is known to the State of California to cause cancer, and Hexavalent Chromium, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

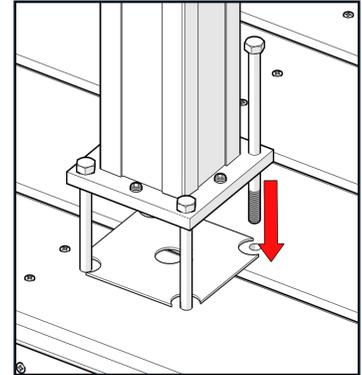
1 Install Railing Post & Post Trim



Placing trim

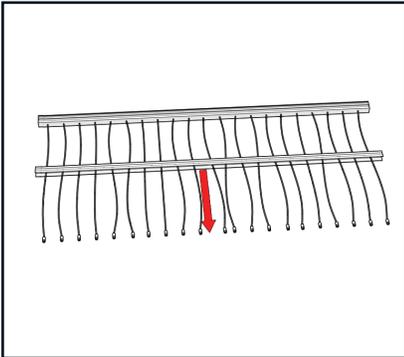
Space Posts according to *application and Top Rail length. Place leveling plate (*highlighted*) between Post and mounting surface.

Attach to structural surface using bolts or lags (*not included*). Partially tighten prior to levelling. Using 3/16" Allen wrench, turn set screws to level Post. Then fully tighten structural screws.

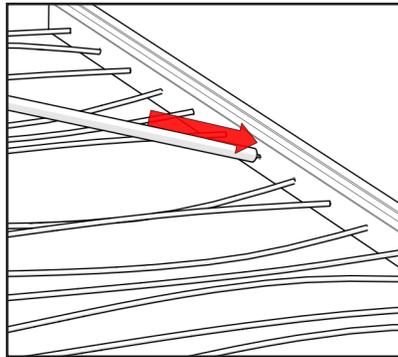


*Check your local building codes to determine structural mounting requirements for Post.

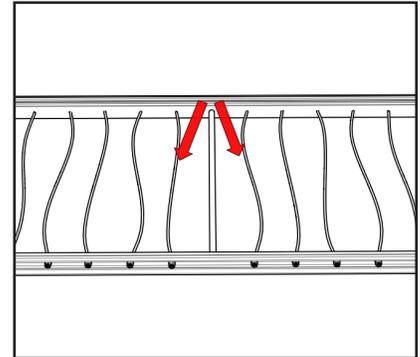
2 Prep Rail & Cable Section



Unwrap cables and lay section flat (on a non-abrasive surface). Then spread Rails tightly to each end.



View the chart to determine the rods' positions, cut and remove unnecessary cables, then insert rods into empty holes.



Place all Flange Nuts, then finger tighten the Nuts of only the cables adjacent to each Support Rod.

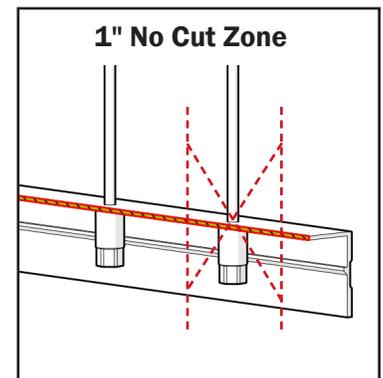
Note: Do not tighten any other cables.

3 Cut to Length

Measure between Posts subtracting 1/4" from total length, and if necessary cut Rails to proper length by cutting an equal amount from each end. Be sure to leave the proper number of Spacer Bars remaining by referencing the chart below.

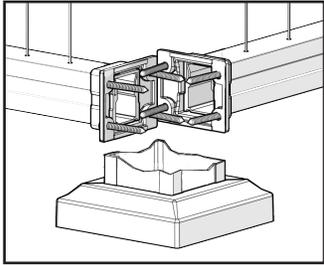
Note: There are Cable Crimps and Flange Nuts attached to ends of each cable inside the Top and Bottom Rail. Do not cut through cable hardware. If cut is on the inside of the cable, remove unnecessary hardware (*using wire cutters*) prior to cutting.

# of Support Rods	Length of Section
1	19" to 38"
2	39" to 57"
3	58" to 76"
4	77" to 95"



Cut Away View

4 Place Rail and Cable Section

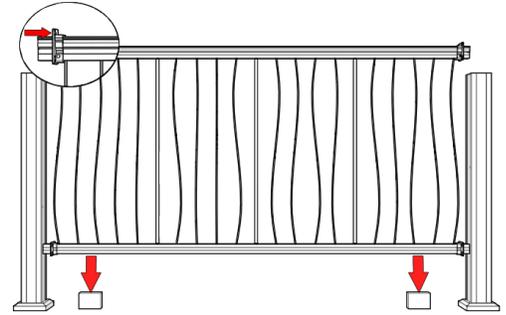


2½" Post: 1/8" offset shown

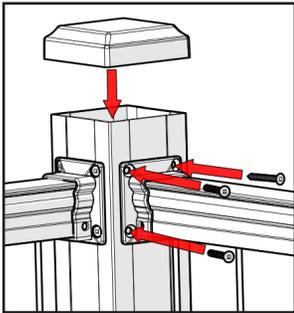
Slide the Brackets over each Rail.

Using two 2½" tall blocks; lower the Section to be installed onto the blocks.

Recommended: If using 2½" Post; offset one section at a corner, by raising it an additional 1/8" (helps avoid Mounting Bracket screw interference).



5 Attach Top & Bottom Rail



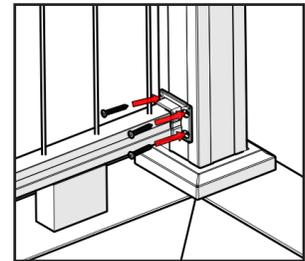
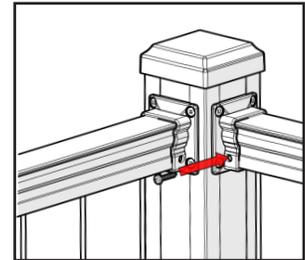
Ensure Top Rail is correct height from deck surface (check both sides).

Put the Rail in place, and slide the self-centering Bracket against the Post.

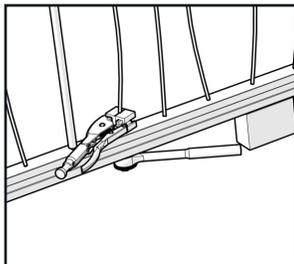
Fasten Bracket to Post using #12 flat-head screws, and secure Bracket to Rail using #10 pan-head screws.

Repeat these steps for Bottom Rail (ensure rail is 2½" above deck surface)

Install Post Cap using soft/rubber mallet.



6 Tension Cables

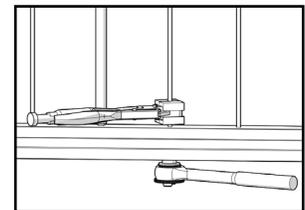


For best installation, tension cables to specified tension in sequence as shown in the diagram below.

Beginning with cable #1, grip the cable *(Keylink Cable Gripping Pliers) about ¼" above the bottom rail. Tighten the flange nut with a ⅞" socket wrench until the cable reaches the recommended cable tension, as measured by the Keylink Tension Gauge.

Note: It is important to grip each cable firmly while tensioning to prevent it from twisting and tensioning improperly.

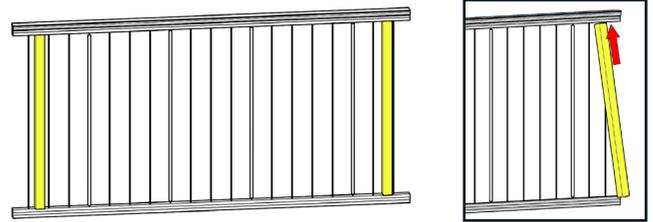
*Keylink Cable Gripping Pliers required to prevent cables from turning, and to prevent damage to the cables.



= 105lbs. of tension (#11 on a Keylink Tension Gauge, other gauges may vary)

= 90lbs. of tension (#9 on a Keylink Tension Gauge, other gauges may vary)

Installer Tip: Cut two blocks (*highlighted*) to fill the distance between the Rails, and place them on either end of a section prior to installation. This helps keep the section rigid during installation.



7 Stair Rail Installation

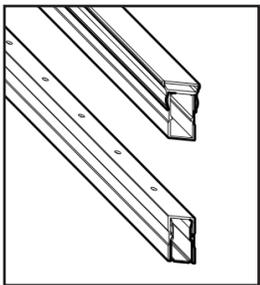
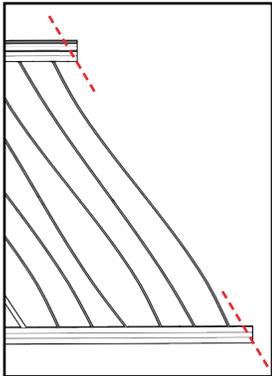
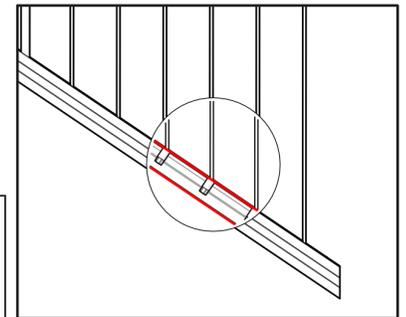
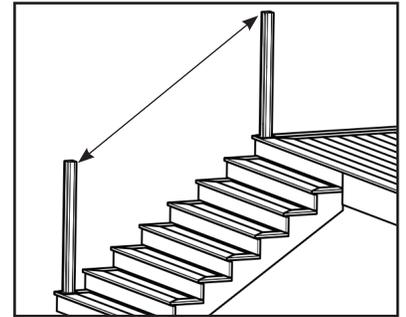
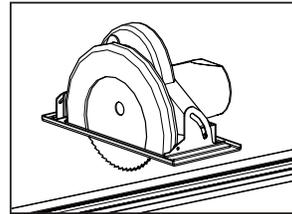
Measure from inside edge between Posts subtracting 1/4" from total length, and if necessary cut Rail to proper length by cutting an equal amount from each end. Do not cut through Cable Hardware (refer to pg. 2 Step 3)

To ensure Rails align properly; cut upper and lower ends of Top and Bottom Rails separately, and at opposite angles.

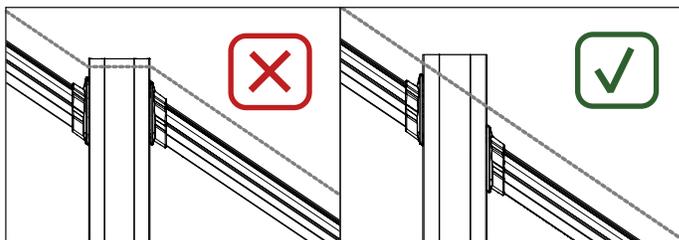
Tip: Hold Stair Section at final angle while cutting. Be sure to keep cable hardware clear of blades.

(Standard stair angle is 34°)

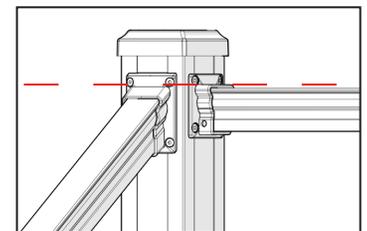
! Cutting Tip
Be sure to use a **fine-tooth blade approved for cutting aluminum** and rest rails on a piece of **non-abrasive material** to protect from scratches.



! When doing stair sections, mount them as shown below:

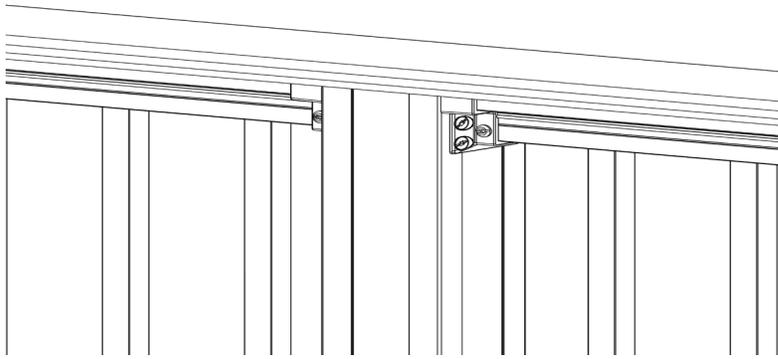


Note: Always check local building codes to ensure compliance as there are mandates regarding the size opening of each section.



Ensure that the stairs' Top Rail doesn't exceed the level height of the opposite Rail.

Chesapeake Series Rail Option: Vertical Cable



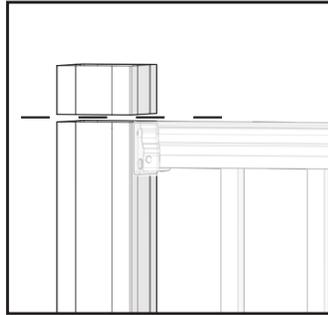
What's Included

- Top and Bottom Rails
- Balusters
- (2) Deckboard Mounting Brackets
- (2) Bottom Level Brackets
- Snap on Support (for 8' sections)
- (17) #12 x 1" Self Drilling Flat Head Screws
- (15) #10 x 3/4" Self Drilling Pan Head Screws
- (15) or (19) #8 x 3/4" Type 17 Pan Head Screws

Posts, caps, and trim sold separately

(Optional) Cut Posts to Height

Posts are provided at a standard height, and must be cut to length (Prior to section's installation). Refer to step 5 for Top Rail height, and cut Posts to match overall height



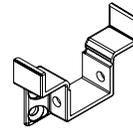
#10 Pan-Head Screws



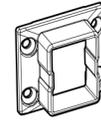
#8 Pan-Head Screws



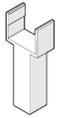
#12 Flat Head Screws



Deckboard Mounting Bracket



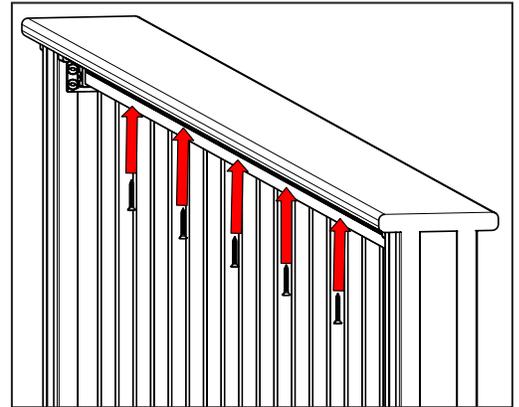
Bottom & Middle Level Bracket



Snap on Section Support

(Optional) Install Deckboard

Using the supplied #8 x 3/4" pan head screws fasten the deckboard (not supplied) to the top rail from beneath by using the predrilled holes of the top rail. It is recommended to drill a 1/8" pilot hole in the deckboard to avoid splitting.



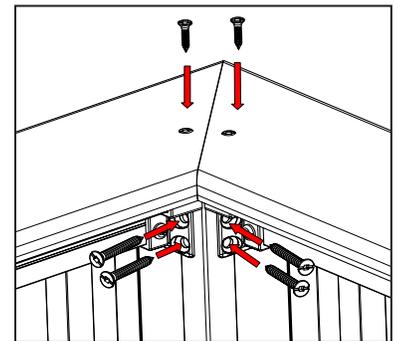
Drilling Pilot Holes

If the rail has been cut to another length, drill 3/16" pilot holes evenly spaced in the aluminum top rail channel



Corner Install Recommendation

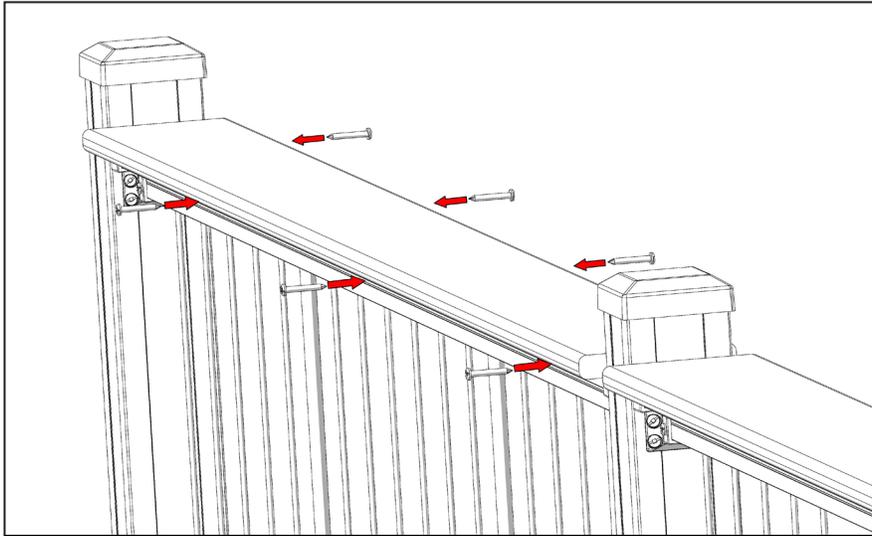
When installing the corner of a railing it is recommended to insert a wood block in the top of the post. Cut the block to fit snugly in the post, then secure it using the screws that attach the top brackets. Next screw from the top down, through the deckboard, into the wooden block. This will ensure the edges of the deckboard do not lift up.





Cable Infill Installation

When installing any cable infill, it is necessary to fasten the top snap cap rail to the top rail using the provided #10 x 3/4" pan head self drilling screws at center and each quarter point locations of the rail as shown in the image below. These additional screws allow the cable infill sections to meet IBC/IRC test requirements.



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