cable bullet
CABLE RAIL SYSTEM

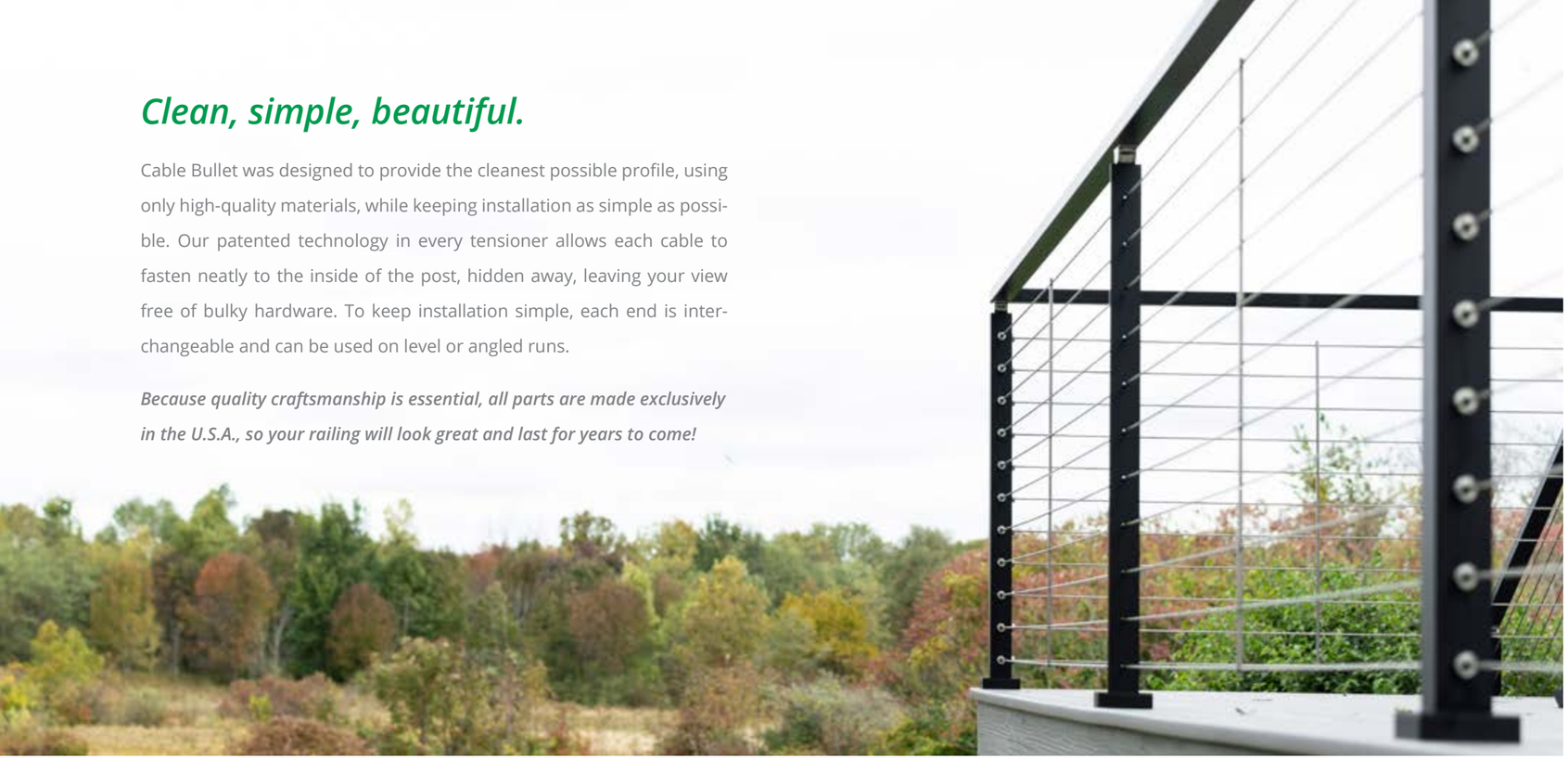
SIGNATURE SERIES CABLE RAILING

ALUMINUM POSTS | HANDRAIL | SS CABLE TENSIONERS

Clean, simple, beautiful.

Cable Bullet was designed to provide the cleanest possible profile, using only high-quality materials, while keeping installation as simple as possible. Our patented technology in every tensioner allows each cable to fasten neatly to the inside of the post, hidden away, leaving your view free of bulky hardware. To keep installation simple, each end is interchangeable and can be used on level or angled runs.

Because quality craftsmanship is essential, all parts are made exclusively in the U.S.A., so your railing will look great and last for years to come!



- BEAUTIFY, DON'T BLOCK YOUR VIEW -

Enjoy the view you love, free of bulky turnbuckles and unnecessary clutter

- SIMPLE IS EASIER -

Interchangeable ends for level and stair runs means less time installing and fewer mistakes

- QUALITY MATTERS -

Proudly made in the USA without cutting corners, so your railing will look great and last for years

- IN STOCK & READY TO SHIP -

Get started quickly, finish confidently, and spend more time enjoying your project

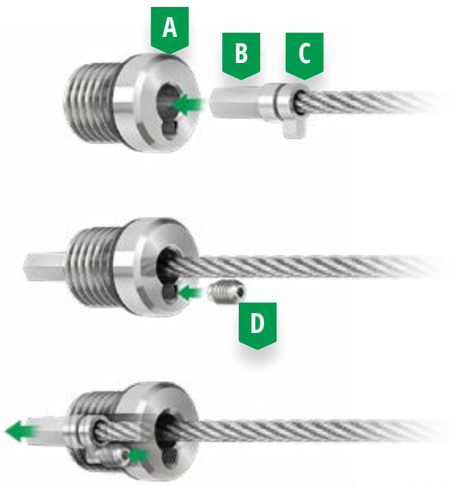
- THE SUPPORT YOU NEED -

Tackle your project with confidence knowing you've got a dedicated team on your side

HOW IT WORKS

THE ALTERNATIVE TO BULKY TURNBUCKLES

A hidden tensioning mechanism tucked away inside your post!



The Cable Bullet tensioner **A** is threaded into the post. The crimped cable end **B** holds the lobed washer **C** in place, while a set screw **D** advances to tension the cable.

Once installed only the head of the tensioner is visible!

TOOLS & SUPPLIES LIST

- ✓ Signature series posts (various) **A**
- ✓ Cable spacer bar kits **B** (optional)
- ✓ Touch-up paint aerosol **C**
- ✓ Tops: Classic Pivot **D**, Classic Fixed **E**, Modern **F**
- ✓ Reinforced aluminum handrail **G**
- ✓ 18” spline stock **H**
- ✓ Splines: Fixed Corner **I**, Adjustable 180° **J**, Adjustable 90° **K**, Adjustable Straight **L**, Fixed Straight **M**
- ✓ Tensioner kits (one Bullet **N**, crimp sleeve **O**, lobed washer **P**, and set screw **Q** per kit)
- ✓ #8 x 3/4” flat head sheet metal screws **R**
- ✓ Post-mounting screws (varied by application)
- ✓ 1/4” Spanner nut bit **S** and Cable Bullet driver **T**
- ✓ Cable Bullet crimper **U** & stand **V**
- ✓ 5/32” Stainless steel cable **W**
- ✓ Cable cutters **X**
- ✓ Painter’s tape **Y**
- ✓ Boeshield T-9® stainless steel lubricant **Z**
- ✓ Tape measure **AA**
- ✓ Hex socket power bit **BB**
- ✓ 3/16” Allen wrench **CC** and 3/32” Allen key **DD**
- ✓ Drill **EE** (1/2” chuck)

PLEASE NOTE: All Cable Bullet recommendations and rail components are designed to comply with the **International Residential Code (IRC)**.

However, because building codes may vary it is the installer’s responsibility to verify that the installed system complies with all applicable state and local building codes.

For more information on Cable Bullet and building code standards, visit: **www.cablebullet.com**

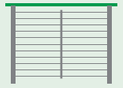
STRUCTURAL GUIDELINES

GENERAL GUIDELINES

A | CABLE TENSIONING POSTS can be spaced up to 20 feet apart. To maintain optimal tension, add tensioners for longer runs.

B | ADD CABLE SPACER BARS or additional support posts every 42–48 inches to minimize cable deflection under load.

C | SPACE YOUR CABLES every 3 inches apart to allow for some cable deflection while maintaining a 4-inch gap between cable runs.



D | SUPPORT YOUR TOP RAIL as needed with structural posts. Spacing will vary by top rail material, thickness and rigidity.

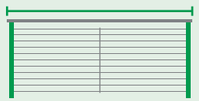
IMPORTANT: It is the installer's responsibility to make certain the structure supporting your posts is able to handle the transferred loads of the railing system (+150 lbs of tension/cable).

POST SPACING FOR HANDRAIL SUPPORT

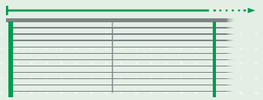
All Signature series posts include a stainless steel top bracket that may be fastened to any top rail with a flat underside. To minimize handrail deflection under load, and to avoid handrail sagging over time, carefully consider the strength and rigidity of your handrail before placing your intermediate support posts.

CABLE BULLET REINFORCED ALUMINUM HANDRAIL

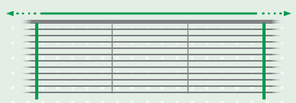
Follow these guidelines for installing Cable Bullet reinforced aluminum handrail. When using custom handrail, consult with a local builder or the top rail manufacturer to determine the appropriate post spacing.



SIMPLE SPAN | 7' MAX Standalone section of railing with 2 end posts and no continuation on either end.

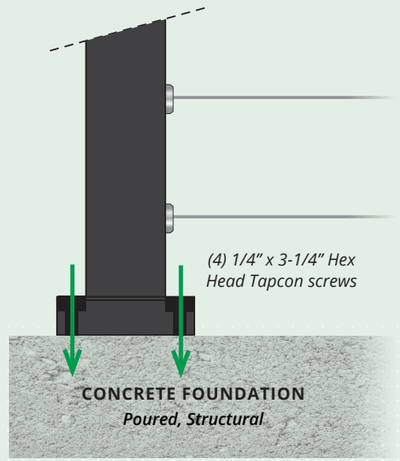


OUTSIDE SPAN | 8' MAX One end post with one connecting span on the opposite side.



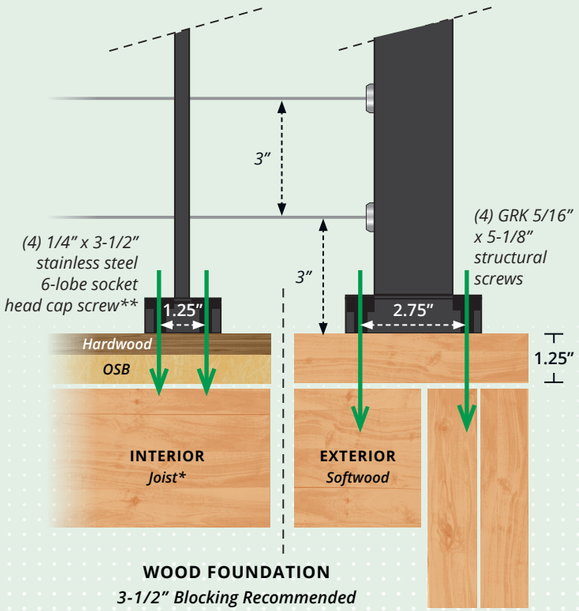
CENTER SPAN | 9' MAX One section of railing with two connecting spans.

MOUNTING SIGNATURE SERIES POSTS



** If no interior blocking, consult a local builder for a custom solution to secure against a 200 lb. impact load.*

*** Custom Cable Bullet screw with continuous thread to maximize holding strength.*



USING CABLE BULLET TENSIONERS WITH CUSTOM METAL POSTS

Cable Bullet tensioners can be used for cable infill with custom metal railing. To make sure your rail design is compatible with Cable Bullet tensioners, follow the structural guidelines outlined above.

- **USE 2X2-INCH TUBING** (minimum) for strength, and to allow space for two sets of tensioners on opposing or perpendicular sides.
- **STEEL POSTS** should have a wall thickness of no less than 3/16". Drill a 19/37" pilot hole and tap for 5/8-18 threading.
- **ALUMINUM POSTS** should have a wall thickness of no less than 1/4". Drill a 37/64" pilot hole and tap for 5/8-18 threading.

Skip to page 19 for tensioner installation instructions

Project photos courtesy of
Mike Riddle Construction
McMinnville, OR

Setting Top Mount Posts

DETERMINING POST PLACEMENT ON STAIR RUNS

On level runs, the decision of where to locate your posts will be determined largely by the structural guidelines outlined on **PAGE 5 & 6**.

However, post placement on and around stair runs can present a unique set of challenges with limited options.

While not designed to be all-inclusive, we've illustrated the most common stair rail scenarios and our suggestions for how to arrange your posts.

See **PAGE 14** for handrail design recommendations on stair runs.

PRO TIP: Use mason line or string to mirror your cable runs and check your post placement. This is especially important when setting intermediate posts. Improperly set posts will kink the cable as it passes through the post.

A

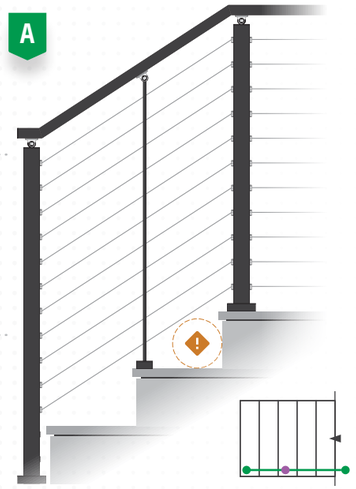


FIGURE A To minimize the gap between your rise, run, and cable, run your cable close to the nosing. Set your bottom post as far out as possible, and move your top post back a few inches from the edge of the tread.

B

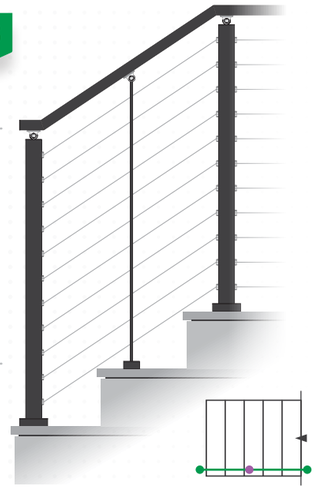


FIGURE B If your rail layout doesn't permit moving your top post back, place a 42-inch post at the bottom of your stairs and plug the bottom two holes with Cable Bullet stainless steel post hole plugs.

If necessary, add a skirt board to the sides of your stairs to close the gap.

C

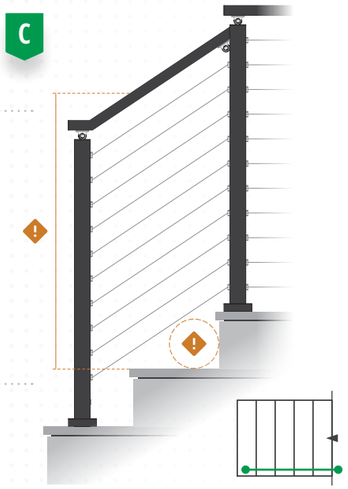


FIGURE C To end your railing on the stairs without moving your top post back, set a 36-inch post on the last tread and plug the bottom hole. Dead-end your rail into the top post.

Make sure your rail height doesn't drop below 34 inches as specified under the Internation Residential Code (IRC).

Add a skirt board if necessary.

L-SHAPED STAIRS & INSIDE CORNERS

D

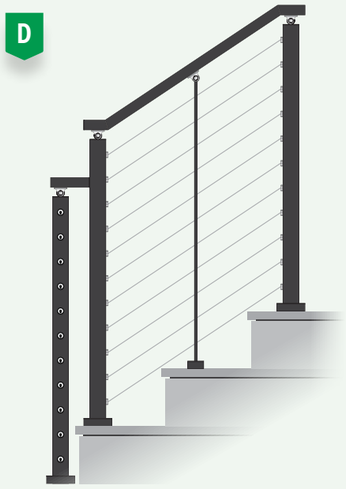
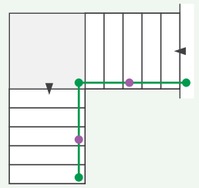
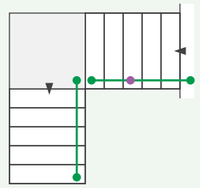


FIGURE D To minimize the gap between your rise, run, and cable, place one 36-inch post at the edge of your bottom stair tread, and turn your inside corner using a second 36-inch post on the landing.

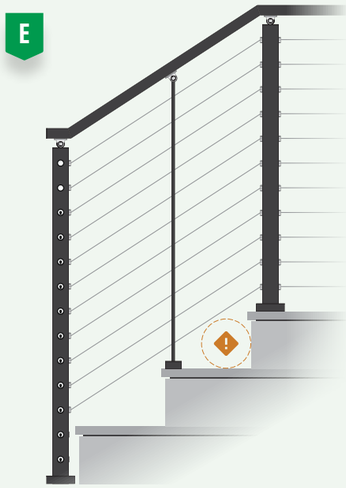
FIGURE E Keep your end posts closer to the nose of your tread by joining your inside cable runs with a 42-inch corner post. Dead-end your handrail or mount an additional pivot top on your bottom run (page 14, **FIGURE D & E**).

If necessary, add a skirt board to the sides of your stairs to close the gap between the rise, run, and cable.





E



SETBACK POSTS

F

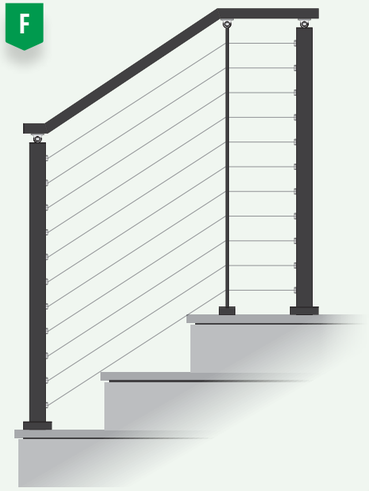
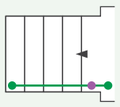


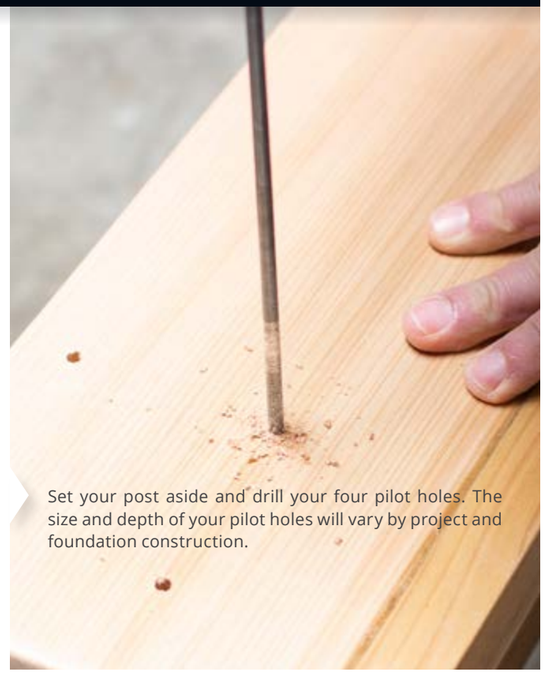
FIGURE F On projects where the tensioning post at the top of the stairs needs to be set back farther, add an intermediate post closer to the front edge of the tread to extend your cable inflection point forward.



1 MARKING & DRILLING PILOT HOLES

Once you have determined the placement of your posts, mark the location of each structural screw (4 per post).

PRO TIP: Use painter's tape to mark the edge and angle of your posts.



Set your post aside and drill your four pilot holes. The size and depth of your pilot holes will vary by project and foundation construction.

2 PLUMBING & SETTING POSTS

Set each screw, but don't tighten them down before levelling the post. Screw lengths and type will vary by application (see **PAGE 5** for structural guidelines). ***It is the installer's responsibility to ensure there is sufficient blocking to anchor securely to!***

Use a 3/16" Allen key to advance the four set screws to plumb your post, then finish setting each screw.

Repeat the process until all structural posts are set

PRO TIP: The leveling feature is designed to work best on hard surfaces. On soft wood or composite decks, consider adding a #10 washer underneath each set screw.

INSTALLING A WOOD TOP RAIL

Each Signature Series post includes a stainless steel top, ***modern*** **fig. A** or ***classic*** **fig. B**, designed to accommodate almost any custom wood top rail selection with a flat underside.

Follow the recommendations below when adding a custom wood top rail.

- **HANDRAIL JOINTS** should be structural. Do not rely on the screws that fasten the top rail to the post to secure the joints in your top rail. Use dowel pins with any miter or butt joint.
- **INTERMEDIATE POST SPACING** must take into account the structural rigidity and strength of your top rail choice. Thinner, softer, or more flexibly wood handrail will need additional intermediate support posts.

B

CLASSIC POST TOPS

Use **#9 trim head screws** to fasten your top rail to the post (screw length will vary by top rail thickness).

To ease installation on stair runs, the pivot top can be disassembled by removing the two side pins using the spanner nut bit **S**.

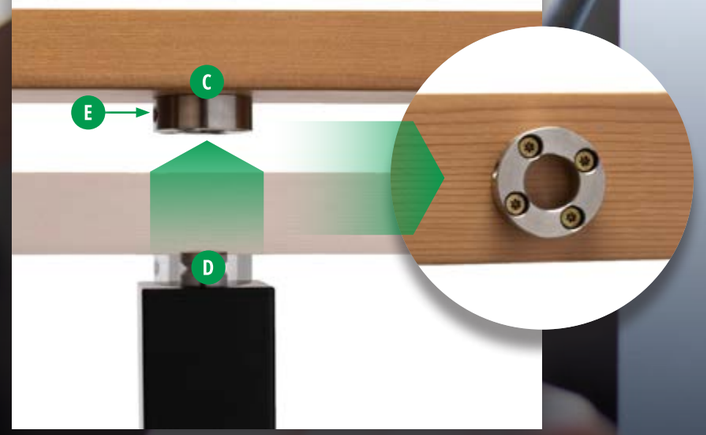
A

MODERN TENSIONING POST TOPS

Use the adhesive strip to temporarily fix the top collar **C** to your handrail at the desired location.

Use **#9 trim head screws** to secure the collar, then reassemble the collar and center pin **D** before tightening the set screw **E** in place.

The top on intermediate posts can be angled to accommodate stair runs. Loosen the screw that attaches the top to the post column, and adjust the top angle as needed.



TOP RAIL DESIGN & STAIR RUNS

Geometry around stairs can present challenges. To make sure your handrail runs parallel to your cables and in line with your stair pitch, read **HANDRAIL DESIGN ON STAIR RUNS** (pg. 14).

INSTALLING CABLE TENSIONERS

Once your top rail has been installed, skip to **PAGE 19** and install your cable runs.

INSTALLING CABLE BULLET ALUMINUM HANDRAIL

Cable Bullet reinforced aluminum handrail is available in 93” lengths, and is designed to be cut down in the field and joined using fixed and adjustable internal splines.

Because the resulting joints are structural, handrail sections do not need to break over a support post. Furthermore, the reinforced handrail profile allows for longer spans, with fewer intermediate support posts.

GUIDELINES FOR HANDRAIL SPANS

SIMPLE | 7’ MAX.
Standalone section of railing with 2 end posts

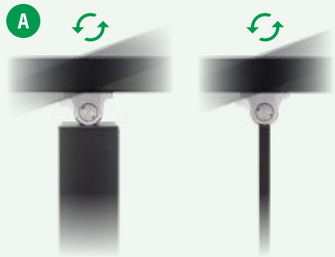
OUTSIDE | 8’ MAX.
One end post with one connecting span

CENTER | 9’ MAX.
One section of railing with two connecting spans

POST TOPS

Signature series posts include your choice of a classic top (pivot **A** or fixed **B**), and a modern stainless steel top. The modern top on intermediate posts is adjustable for stair runs, the tensioning post top is fixed.

A

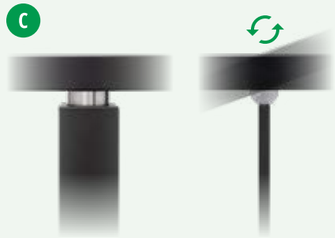


CLASSIC POST TOP | PIVOT
36 or 42” Post Height
*37-1/4 or 43-1/4” Rail Height**

B

CLASSIC POST TOP | FIXED
36 or 42” Post Height
*37-1/4 or 43-1/4” Rail Height**

C



MODERN POST TOP
35-1/2 or 41-1/2” Post Height
*36-3/4 or 42-3/4” Rail Height**

**With 1-1/4” thick Cable Bullet aluminum handrail*

HANDRAIL DESIGN ON STAIR RUNS

Your project specifications, post layout, and post top selection will determine how you design your handrail. Carefully consider each before starting your installation.

A

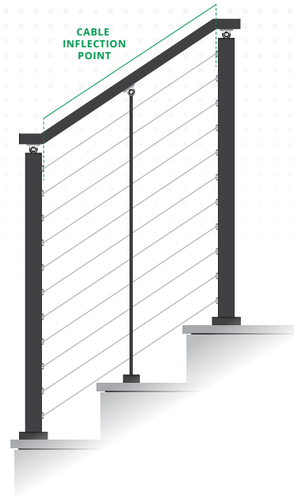


FIGURE A is the preferred handrail design option. Breaking the handrail in line with the cable inflection point allows your handrail to always run parallel to your cables.

*Ideal for classic **A**, **B** & modern **C** tops*

B

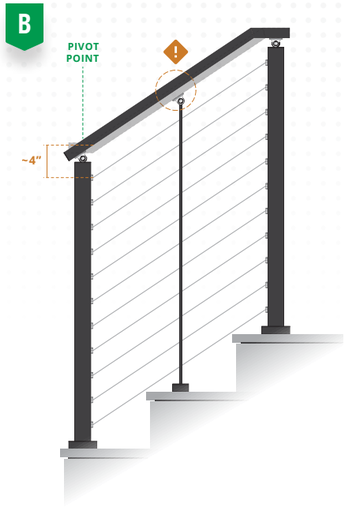


FIGURE B works great on shorter runs *that don’t call for intermediate support posts* (7-8 ft max.).

Extend your handrail past the cable inflection point and pivot your post top at the bottom.

C

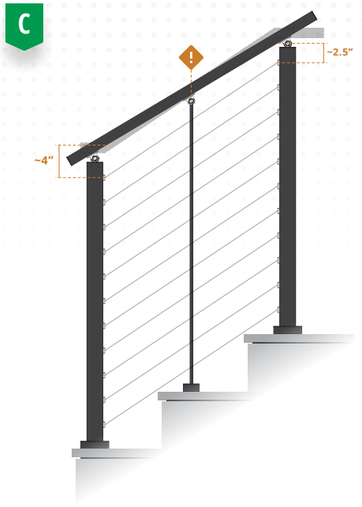


FIGURE C is generally not preferred as it *will result in an irregular gap* between your handrail and cables at the top and bottom of your run. This irregularity may be compensated for by cutting the bottom post down in the field.

*End post requires a classic pivot post top! - Works with classic **A** tops ONLY*

RAIL HEIGHT TRANSITIONS

Your building code may require you to have taller, 42” high railing on level runs. However, the International Residential Code (IRC) specifies a handrail height range for stair runs at 34–38”. Using both 42 and 36-inch tall posts may require making a handrail transition at your stairs.

D

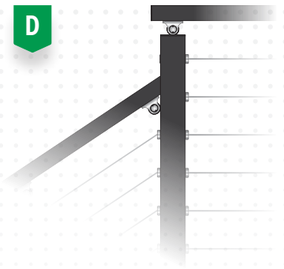


FIGURE D Mount an additional pivot top to the side of your taller post.

*Classic **A** post tops ONLY*

E

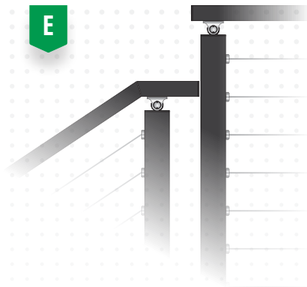


FIGURE E Use two posts and dead-end your handrail into the taller post.

*Classic **A** or modern **B** post tops*

3 CUTTING HANDRAIL PIECES

Use a miter saw and metal cutting blade for any custom cut length.

PRO TIP: Use painter's tape when cutting through powder-coated handrail to minimize chipping.

Before joining your cut sections of handrail, file away any burrs. A clean channel will allow for a cleaner joint.

PRO TIP: Before removing the painter's tape, spray your ends with touch-up spray to cover any blemishes.

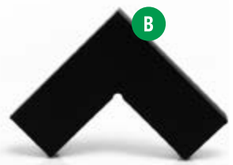
4 JOINING LEVEL STRAIGHT RUNS

Piece together longer, level handrail sections using structural **fixed straight splines A**. Splines are tapered and will tighten up as they are inserted into the spline.

NOTE: Structural fixed splines do not need to be supported over a post!

5 JOINING LEVEL CORNER RUNS

Use Delrin **fixed corner splines B** for all 90-degree turns. Set in place using a mallet. If necessary, use a file on the spline to ease installation.

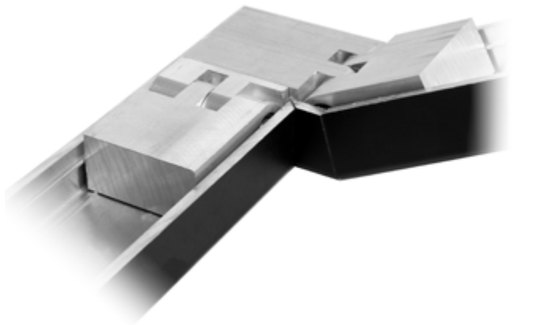


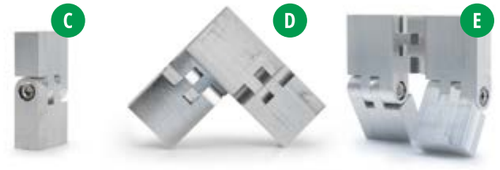
6 ADJUSTABLE SPLINES FOR ANGLED JOINTS

Use **adjustable splines C, D, E** at your stair transition joints. Set the angle of your adjustable spline with a T-bevel and lock it in place with a 3/16" Allen key.

HANDRAIL BEVEL CUTS

Use an angle finder to determine the pitch of your stairs and make the appropriate bevel cut for your handrail.





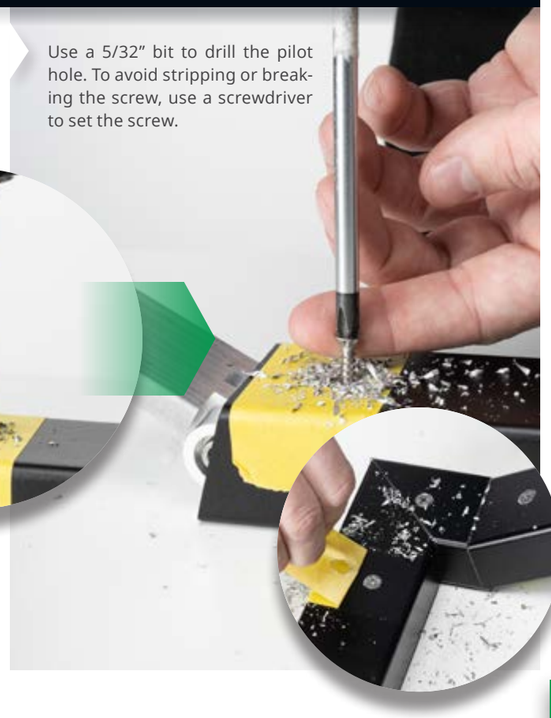
Adjustable straight spline **C**

Adjustable 90-degree spline **D**

Adjustable 180-degree spline **E**

7 SECURING SPLINES & HANDRAIL

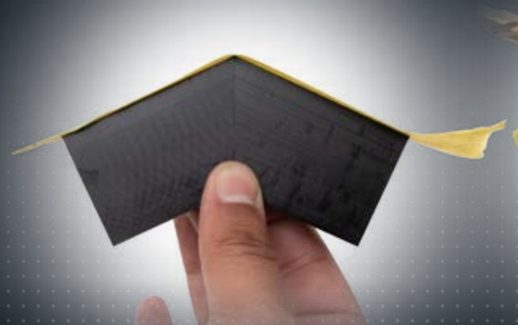
Fasten the spline to the handrail, one piece at time to allow for minor adjustments. First, drill a countersink for a **#8 x 3/4" stainless steel flat head sheet metal screw**.



Use a 5/32" bit to drill the pilot hole. To avoid stripping or breaking the screw, use a screwdriver to set the screw.

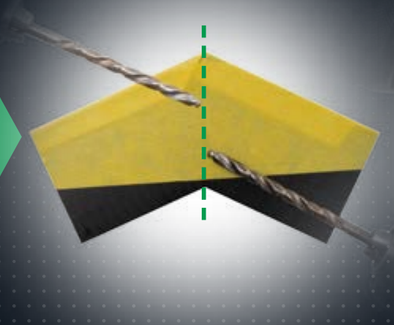
BUILDING CUSTOM SPLINES

Delrin plastic spline stock is available in 18-inch sticks and is designed to be cut down on-site and modified to create any non-standard, horizontal transition, e.g. a 45-degree turn in your railing. Use a miter saw and deck screws to cut and join custom splines. One 18-inch stick is sufficient material to make up to 3 custom splines. Joints using Delrin spline stock are non-structrual and should always be supported by a tensioning or intermediate support post.



Cut two pieces of spline stock at the desired angle. Each piece should be at least 2-1/4 inches long. Use as much tape as needed to temporarily secure both halves of the spline.

Use a 3/8" drill bit to create counter sink holes on opposite sides of the both spline havles.



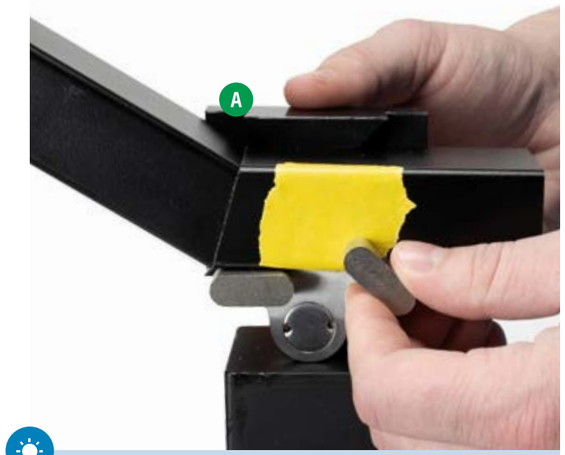
Use a 5/32" drill bit to drill holes to the joint through the previously drilled pockets. Only drill to the joint! DO NOT DRILL PAST THE JOINT into the second half of the spline.

To finish your pilot holes, use a 9/64" drill bit to drill 2-1/2-inch long holes through the joint into the second half of the spline.

To secure both spline halves, drive in two #9 x 2-1/2" decking screws. Remove the tape and slide your custom spline into the handrail assembly.

8 MOUNTING HANDRAIL TO CLASSIC POST TOPS

Temporarily secure your handrail to the post top using the Cable Bullet handrail clamp **A** .

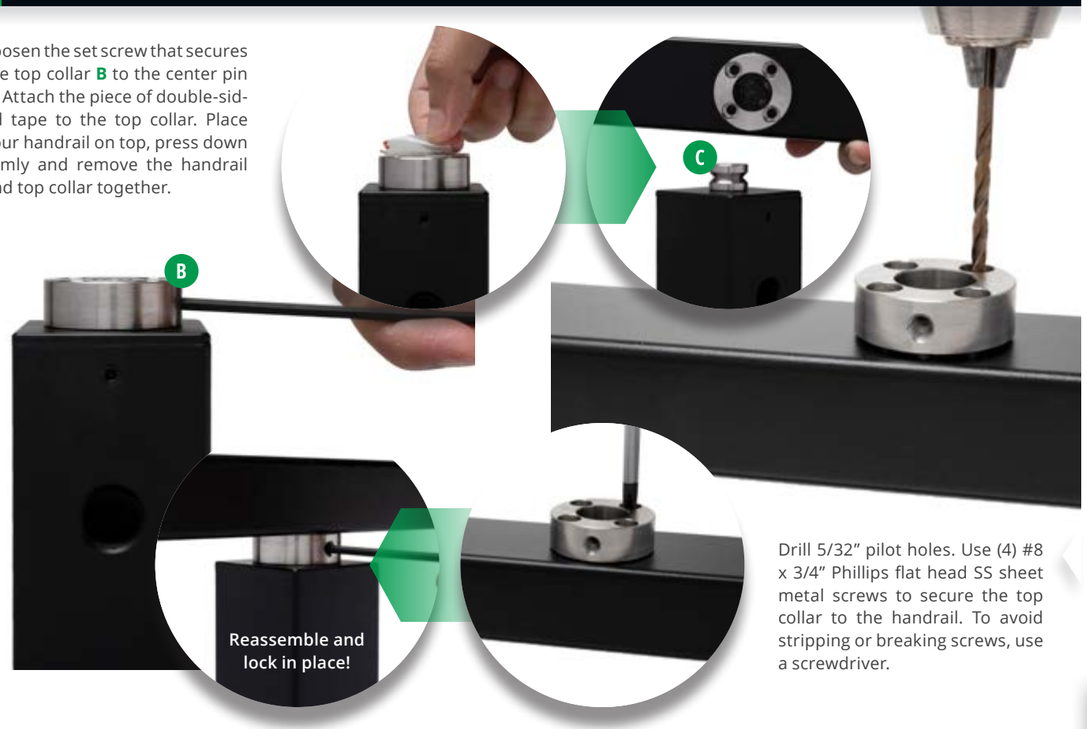


PRO TIP: Use painter's tape where necessary to protect the finish on your handrail.

Drill 5/32" pilot holes. Use (4) #8 x 3/4" Phillips flat head SS sheet metal screws to secure the handrail. To avoid stripping or breaking screws, use a screwdriver.

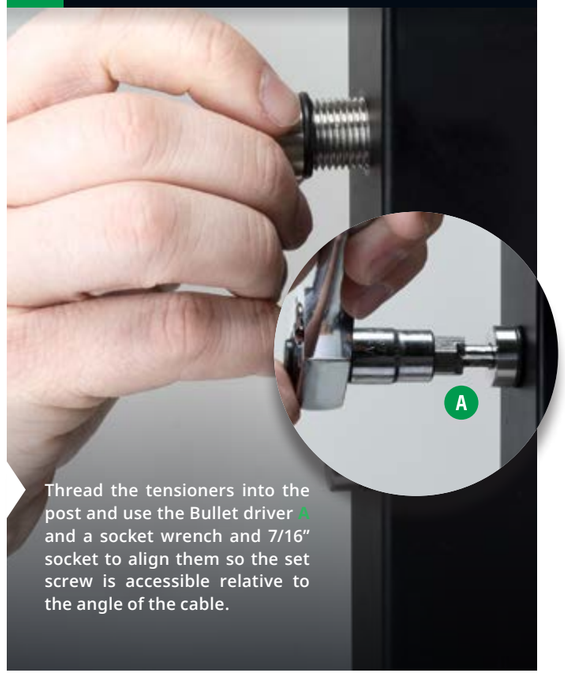
9 MOUNTING HANDRAIL TO MODERN POST TOPS

Loosen the set screw that secures the top collar **B** to the center pin **C**. Attach the piece of double-sided tape to the top collar. Place your handrail on top, press down firmly and remove the handrail and top collar together.



Drill 5/32" pilot holes. Use (4) #8 x 3/4" Phillips flat head SS sheet metal screws to secure the top collar to the handrail. To avoid stripping or breaking screws, use a screwdriver.

10 SETTING TENSIONERS

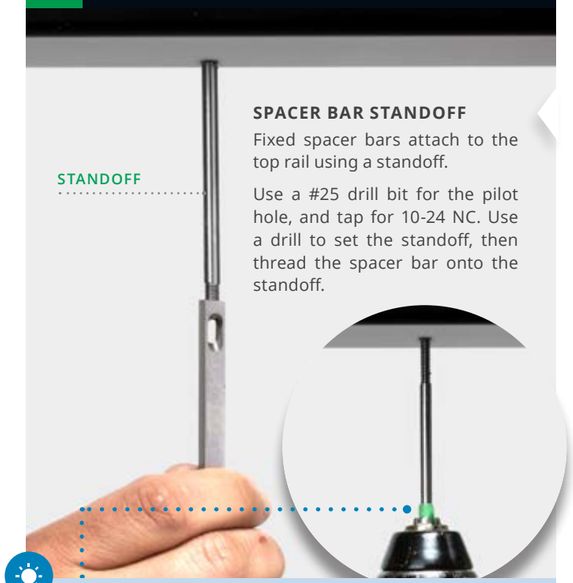


Thread the tensioners into the post and use the Bullet driver A and a socket wrench and 7/16" socket to align them so the set screw is accessible relative to the angle of the cable.

11 LUBRICATING TENSIONERS

Apply a drop of Boeshield T-9 lubricant to the set screw channel of each tensioner to ease installation and reduce the likelihood of seizing, passivate the stainless, and help prevent corrosion.

12 FIXED SPACER BARS *Optional*



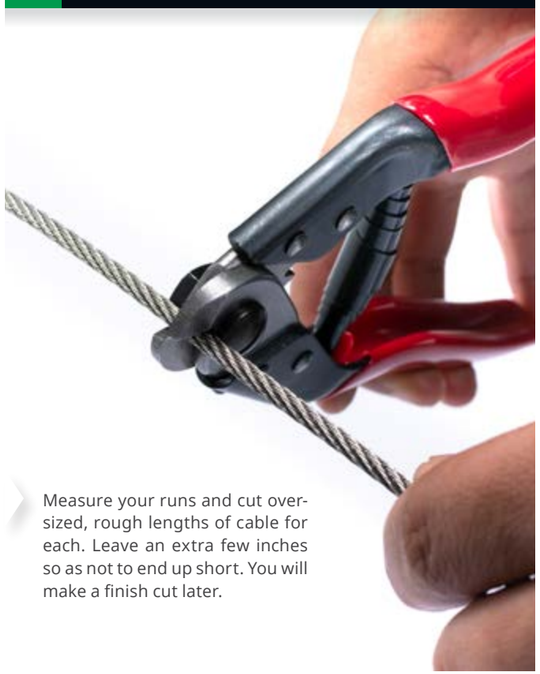
SPACER BAR STANDOFF

Fixed spacer bars attach to the top rail using a standoff.

Use a #25 drill bit for the pilot hole, and tap for 10-24 NC. Use a drill to set the standoff, then thread the spacer bar onto the standoff.

PRO TIP: Protect the finish and threads on your standoff during installation with a piece of painter's tape.

13 CUTTING ROUGH CABLE LENGTHS



Measure your runs and cut oversized, rough lengths of cable for each. Leave an extra few inches so as not to end up short. You will make a finish cut later.

14 CRIMPING CABLE ENDS

Fit the first end of your cable with a lobed washer and crimp sleeve.

Use the Cable Bullet crimper to firmly set the crimp. This should take 10-12 pumps. A properly crimped cable end will show a distinct hexagonal imprint pattern.

CAUTION: A properly crimped cable end is essential to maintaining the integrity and safety of your cable. A weak connection will slip over time or fail against an impact load!

15 SETTING CABLE ENDS

Insert the crimped cable and lobed washer into the tensioner and use a 3/32" Allen key (or hex socket power bit) to advance the set screw until it is flush with the face of the Bullet.

CAUTION: To minimize the risk of cross-threading or galling, use a manual socket screw driver or Allen wrench.

16 RUNNING CABLES

With the crimped end locked in place, thread your cable through all the intermediate posts and spacer bars.

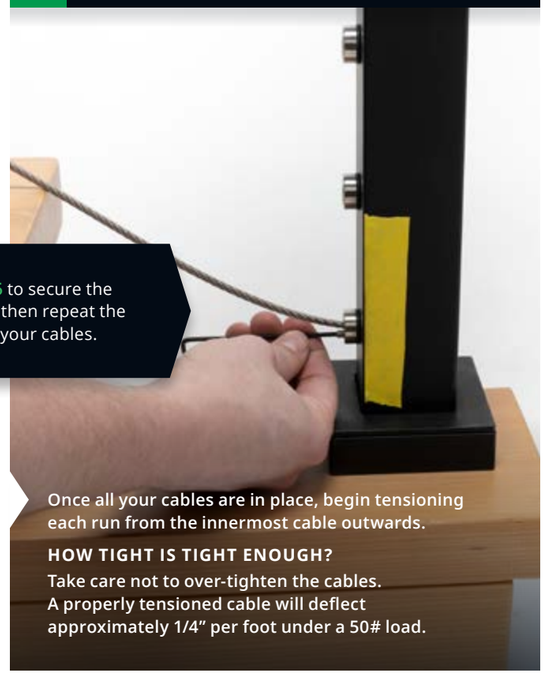
PRO TIP: Tape your floating spacer bars to the closest post until all your cables are set.

17 CUTTING EXACT CABLE LENGTHS

Pull the cable hand-tight, measure an inch past the face of the tensioner, and make your finish cut.

Repeat steps #14 and #15 to secure the second end of your cable, then repeat the entire process for each of your cables.

18 FINAL TENSIONING

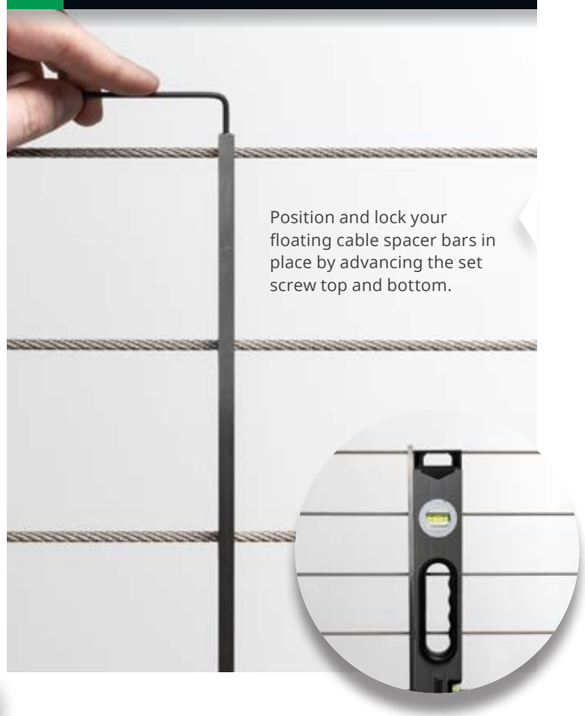


Once all your cables are in place, begin tensioning each run from the innermost cable outwards.

HOW TIGHT IS TIGHT ENOUGH?

Take care not to over-tighten the cables. A properly tensioned cable will deflect approximately 1/4” per foot under a 50# load.

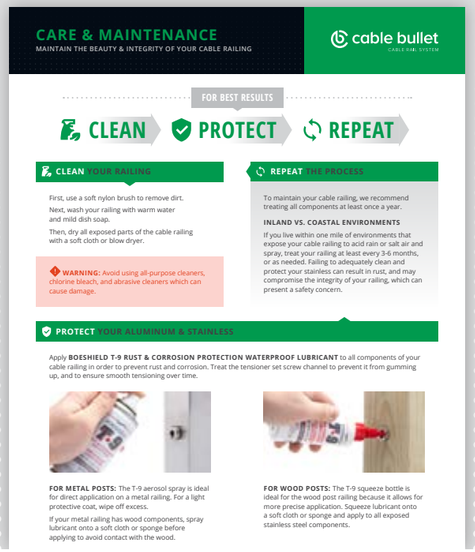
19 SETTING SPACER BARS



Position and lock your floating cable spacer bars in place by advancing the set screw top and bottom.

20 CARE & MAINTENANCE

After you’ve finished the installation process, follow the Cable Bullet care and maintenance instructions.



CARE & MAINTENANCE

MAINTAIN THE BEAUTY & INTEGRITY OF YOUR CABLE RAILING

cable bullet

FOR BEST RESULTS

CLEAN PROTECT REPEAT

CLEAN YOUR RAILING

First, use a soft nylon brush to remove dirt.

Next, wash your railing with warm water and mild dish soap.

Then, dry all exposed parts of the cable railing with a soft cloth or blow dryer.

WARNING: Avoid using all-purpose cleaners, chlorine bleach, and abrasive cleaners which can cause damage.

REPEAT THE PROCESS

To maintain your cable railing, we recommend treating all components at least once a year.

INLAND VS. COASTAL ENVIRONMENTS

If you live within one mile of environments that expose your cable railing to acid rain or salt air and spray, treat your railing at least every 3-6 months, or as needed. Failing to adequately clean and protect your stainless can result in rust, and may compromise the integrity of your railing, which can present a safety concern.

PROTECT YOUR ALUMINUM & STAINLESS

Apply **BOESHIELD T-9 RUST & CORROSION PROTECTION WATERPROOF LUBRICANT** to all components of your cable railing in order to prevent rust and corrosion. Treat the tensioner set screw channel to prevent it from gumming up, and to ensure smooth tensioning over time.

FOR METAL POSTS: The T-9 aerosol spray is ideal for direct application on a metal railing. For a light protective coat, wipe off excess.

If your metal railing has wood components, spray lubricant onto a soft cloth or sponge before applying to avoid contact with the wood.

FOR WOOD POSTS: The T-9 squeeze bottle is ideal for the wood post railing because it allows for more precise application. Squeeze lubricant onto a soft cloth or sponge and apply to all exposed stainless steel components.

“There’s got to be a better way.”

In 2012 I had a project that called for cable railing. Looking at what was available, the thought kept coming to mind “There has got to be a better way.”.

There were nice looking and easy to install systems, but “wow” were they expensive! There were cheap systems, but the aesthetics seemed lacking. And then there were all the parts and pieces.....fixed ends, tensioning ends, straight and sloped ends, through the post ends, or surface mount ends. On and on it went. “There has got to be a better way.”

Several years (and a lot of evenings and weekends in the shop) later, we have a new approach to cable railing. It installs the same way in any application. It is aesthetically consistent in any application. Straight and sloped applications—same look. Metal or wood posts—same look. Different ends of the run—same look.

In any application the tensioning is done inside the bullet within the post. An elegant look with no caps or nuts on the opposite side of the post. No surface-mount, inline tensioner to clutter up short runs. Just cable disappearing into a stainless disk. Elegant, and simple.

Daniel Schlatter, Co-Founder

START YOUR PROJECT WITH CONFIDENCE

DON'T LIKE IT? DON'T PAY FOR IT

If after you've received your order, you feel our system is not a good fit, or your project specs change unexpectedly, feel free to return your complete order for a full refund! We'll even cover the return shipping.

RETURN WHAT YOU DON'T USE

Any unused items from our store, that are still in as-new condition, may be returned within 90 days of purchase for a full or partial refund, no questions asked!

NO-PENALTY EXCHANGES

Projects can change, and accidents happen. If you, or your customer purchased the wrong hardware, let us know. We'll exchange it without a restocking fee and you won't pay for shipping more than once!

Some restrictions do apply. For full details, please visit www.cablebullet.com.

WE'RE HERE TO HELP!

If you have any questions about our system or your project, give us a call or send us a message.
We're open Monday-Friday from 9 am-5pm EST.

WWW.CABLEBULLET.COM INFO@CABLEBULLET.COM 812.727.6563

cable bullet

GET INSPIRED:

CABLE BULLET
3552 E US HWY 30
WARSAW, IN 46580