

SETUP GUIDE

STAINLESS STEEL HANDRAIL

SKU #HRS-1.25-93-316

TOOLS & SUPPLIES

- ❑ Stainless steel handrail & matching end caps*
- ❑ Handrail mounting screws (#9 x 2-1/2" SS star drive trim head screws)*
- ❑ Handrail splines*
- ❑ Metal file
- ❑ Drill/impact driver
- ❑ 3/16" x 6" Cobalt Aircraft extension drill bit*
- ❑ 9/64" x 6" HSS Aircraft extension drill bit*
- ❑ T20 x 3-1/2 star drive power bit*
- ❑ Miter bandsaw with metal cutting blade rated for stainless steel (recommended: 5" x 6" horizontal bandsaw, .5HP 115V)**
- ❑ Tape measure
- ❑ Venture series handrail clamp*
- ❑ Angle finder (stair runs)
- ❑ Mallet (setting splines in place)

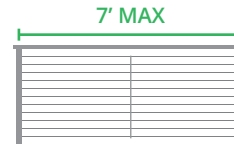
* available at www.cablebullet.com

** Recommended model is the Jet HBS-56MVS, variable speed, mitering bandsaw

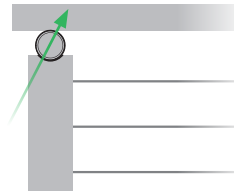


PRO TIP: All drill bits need to be high quality (Cobalt for best results). When drilling through stainless steel, use a slow speed with firm, constant pressure. Faster speeds create additional heat, which dulls bits faster and hardens steel, making it extremely difficult to drill through. If needed, cool down steel with water or lubricate to reduce friction.

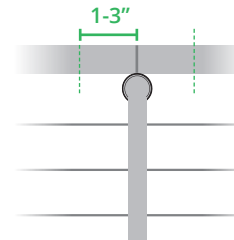
BEFORE GETTING STARTED



Check to make sure your structural end and intermediate posts are no more than 7 feet apart.



Align the post tops so the handrail mounting screws will run the same direction as the cables.



Make sure your post layout will allow for the handrail break points to be over or within 1-3 inches of a structural post.

GOT QUESTIONS? WE'RE HERE TO HELP!



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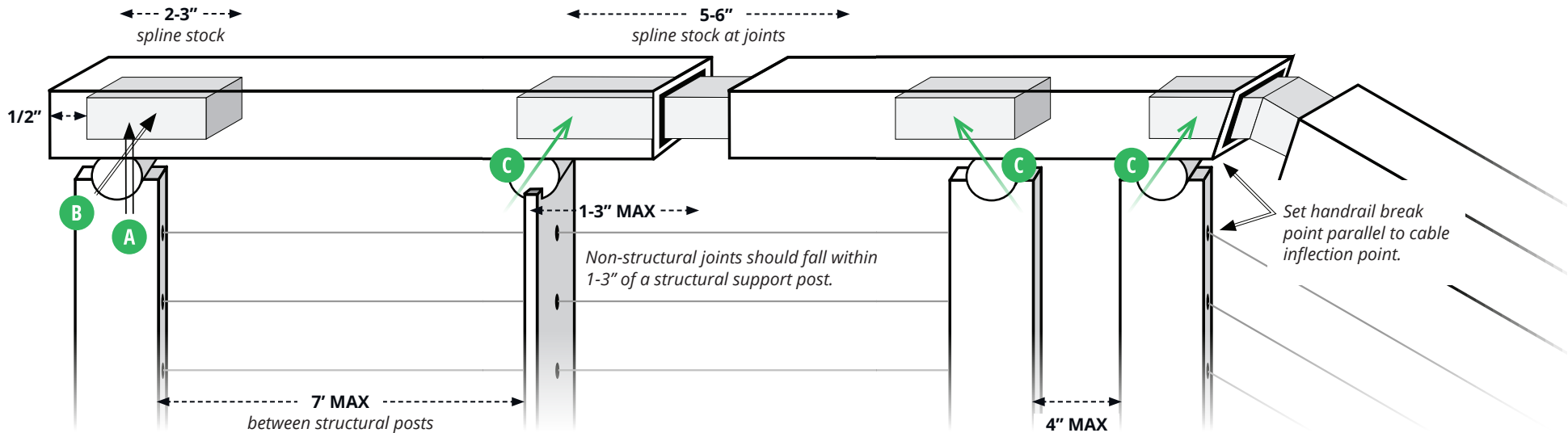
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JOINING HANDRAIL WITH NON-STRUCTURAL SPLINES

The steps below outline the easiest way to install stainless steel handrail on Venture series posts. This method requires the handrail to break over, or within 1-3", of structural intermediate or end posts. Handrail sections are joined with internal, non-structural plastic Delrin splines.



STRAIGHT LEVEL RUNS

1 | Measure the distance from the start of your top rail to the first structural post and add 1-2" to that length before marking the cut location on your handrail.

NOTE: Handrail joints using spline stock should always fall within 1-3" of a structural support post.

2 | Cut your handrail using the miter bandsaw and file down any burrs as needed.

3 | Lay your custom cut length of handrail over the first two structural posts and temporarily secure it in place using the handrail clamp(s).

4 | Use the 3/16" hex bit (with extension) to mark drilling locations on the handrail.

5 | Remove and flip handrail with clamps still secured, and drill straight through handrail wall at marked locations using the 3/16" bit **A**.

6 | Replace handrail on posts, and secure clamps. At the handrail end points, cut and insert a 2-3" piece of spline stock. Set the spline in a 1/2" to allow space for the end cap. To join multiple sticks of handrail on a continuous run, use 5-6" pieces of spline stock at the joints.

7 | Using the 6" x 9/64" bit, drill pilot holes through the 3/16 holes and into the spline stock at the angle designated by the post top **B**.

8 | Use a drill or impact driver with T20 star drive to set 2 handrail mounting screws **C** in each post. **Pro Tip:** set one screw to secure handrail before drilling the second pilot hole.

9 | Once secured, remove the handrail clamp(s) and repeat the process until you've reached the end of the straight run. If the straight run turns into a corner, stop short at the last structural post before the corner transition and skip to **page 3** for instructions.

LEVEL TO STAIR TRANSITIONS

1 | Set a piece of handrail in place and mark the cut location in line with the post face.

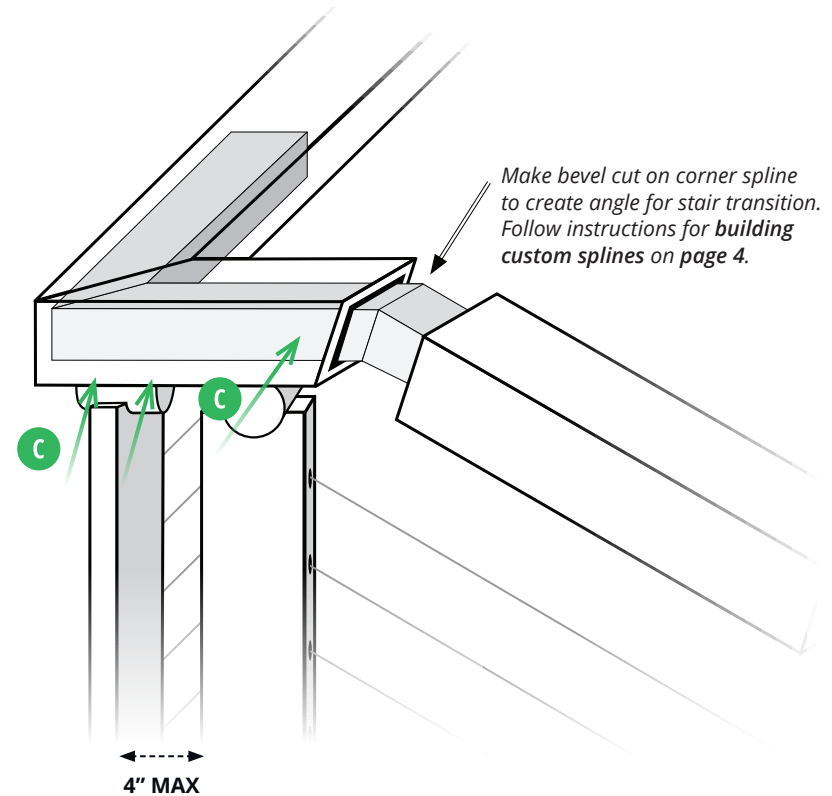
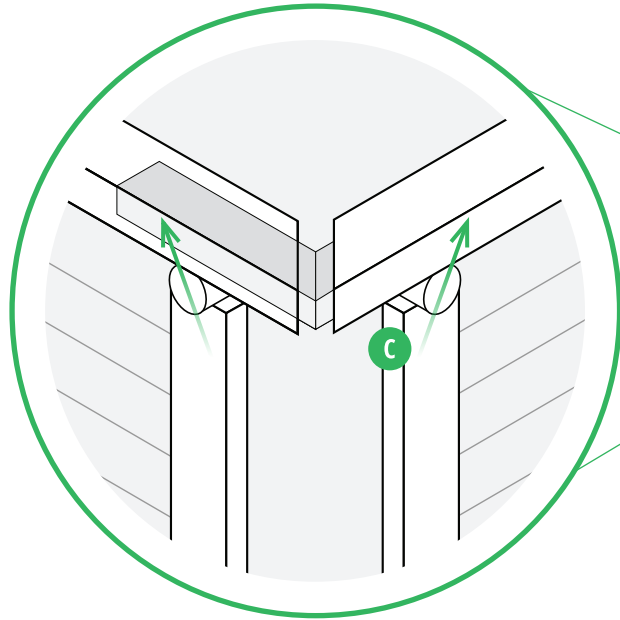
NOTE: To ensure your handrail runs parallel to the stair pitch line, set your handrail break point parallel to the cable inflection point.

2 | Determine the pitch (or rake) of your stairs using an angle finder. Divide that number in half to determine the exact angle needed for your handrail bevel cut.

3 | Make your bevel cut using the miter bandsaw. File down any burrs as necessary.

4 | Use spline stock to create a custom spline matching the angle of your stairs. Skip to **page 4** for instructions.

JOINING HANDRAIL WITH NON-STRUCTURAL SPLINES



TURNING CORNERS

- 1 | Measure from the corner to the end of your connecting handrail to determine the approximate length of your first piece. Add 1-2" to that length before marking the cut location on your handrail.

NOTE: Handrail joints using spline stock should always fall within 1-3" of a structural support post.

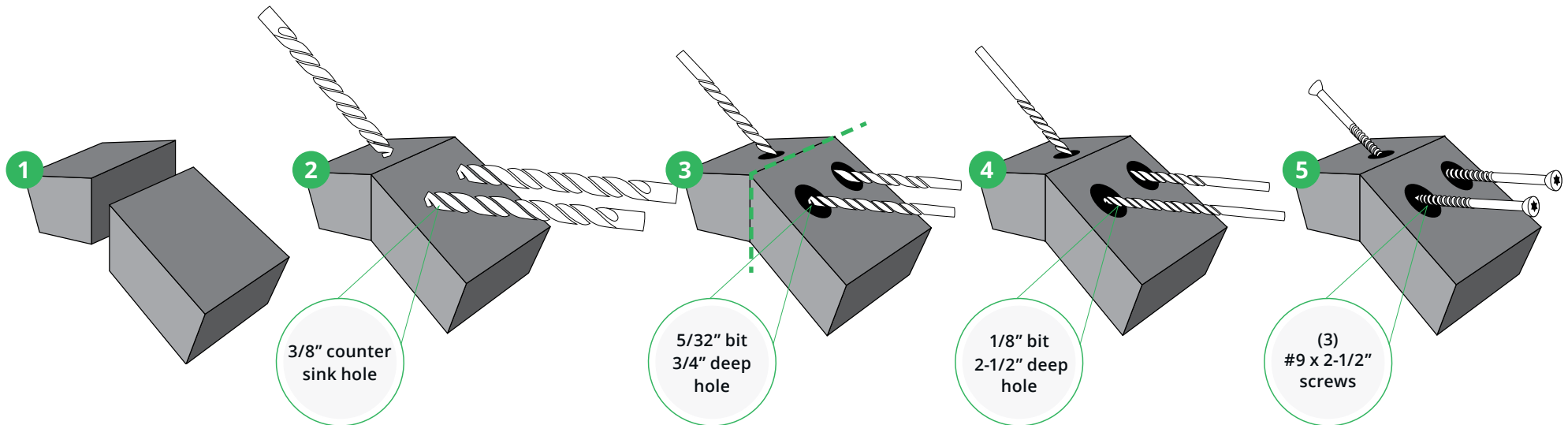
- 2 | Miter your corner handrail pieces using the bandsaw and file down any burrs as needed.
- 3 | Connect your two corner pieces using the plastic corner spline.

- 4 | Set the assembled corner in place and mark the finish cut relative to the end of your connecting handrail.
- 5 | Once you've cut your corner assembly to size at both ends, use the handrail clamp(s) to secure, drill, and attach the corner to your posts with handrail mounting screws **C**.

CORNER TO STAIR TRANSITIONS

- 1 | Follow steps 1-2 of the previous instructions for turning corners.
- 2 | Before connecting the two handrail corner pieces, follow steps 1-3 of **Level to Stair Transitions** on **page 2**.
- 3 | Instead of using spline stock to create a custom transition, bevel cut the plastic corner spline in the correct location. Flip over the severed piece of spline to create the angle and secure the splines together with decking screws (see **page 4**).
- 4 | Continue with steps 3-5 of the instructions for turning corners to secure your handrail.

Delrin plastic spline stock is designed to be cut down on-site and modified to create stainless steel handrail transitions. Use a miter saw and handrail mounting screws to cut and join custom splines. Joints using Delrin spline stock are non-structural and should always be supported by an end or intermediate post.



TOOLS & SUPPLIES

- ❑ Plastic spline stock*
- ❑ High tack tape
- ❑ Ratcheting bar clamp
- ❑ Miter saw
- ❑ Drill (3/8" bit, 5/32" bit, and 1/8" bit)
- ❑ #9 x 2-1/2" SS Trim head screws (3 per custom spline)*

* available at www.cablebullet.com

HOW TO BUILD A CUSTOM SPLINE

- 1 | Cut 2 pieces of spline stock at the desired angle. Each piece should be at least 2-1/2 inches long. Temporarily secure the pieces together with tape along the top and bottom. Clamp together as needed to keep the pieces from moving side-to-side during drilling.
- 2 | Use a 3/8" drill bit to create 3 total counter sink holes on opposite sides of both spline halves.
- 3 | Use a 5/32" drill bit to drill holes 3/4" long through the previously drilled pockets.
- 4 | To finish your pilot holes, use an 1/8" drill bit to drill 2-1/2" long holes through the joint into the second half of the spline.
- 5 | To secure both spline halves, drive in three #9 x 2-1/2" screws. Unclamp and remove the tape before sliding your custom spline into the handrail assembly.



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