

Bella Cavo (Horizontal Cable Railing)

(Style C91)

Installation Instructions



- It is the responsibility of the installer to meet all code and safety requirements, and to obtain all required building permits. The installer should determine and implement the installation techniques appropriate for each unique installation situation. Digger Specialties, Inc. and its distributors shall not be held liable for improper or unsafe installations.
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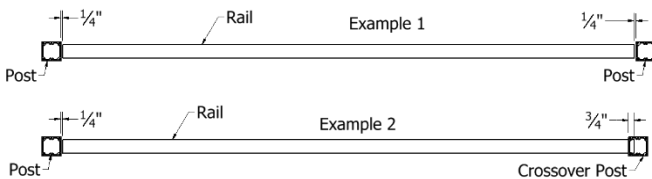
Tools Required	
1) 1/4" drive right angle ratchet	1) Battery operated screwdriver (4V, with maximum 600 RPM and 89 in/lb)
1) T30 Torx bit	
1) Model PT-CR Tension Gauge	Screwdriver is not included in kit.
1) Cable Cutter Wire Rope	<u>No Screw Guns or Impact Drivers!</u>
1) Cable Lacing tools	
1) T30 Torx Bit, 4" Long, 1/4" Hex Shank	
1) 1/4" Drive Extension / 6" Long	
Tools can be acquired as a kit.	

Only use 1/8" Wire Rope 1 x 19 construction Stainless Steel AISI 316 for Bella Cavo railing.

(Level) Railing

Note: Top rail is 1" longer on each end to accommodate Crossover Railing.

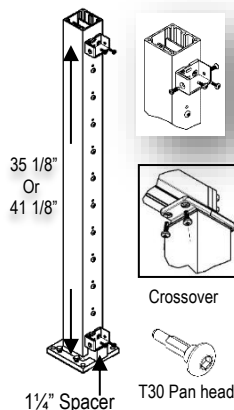
- Measure the distance between the inside edges of the post where the rails will be placed. Mark the rails 1/2" shorter than the measurement between post. Cut rails. (See Example 1).



Crossover Railing: Cut bottom rail the same as (Example 1). For top rail, make end spacing exactly 3/4" longer on all ends connecting to line crossover post (Example 2). If connecting to a corner crossover cut top rail 1/4" short of post.

- Attach top mount to post by measuring up 35-1/8" (for 36" tall railing) or 41-1/8" (for 42" tall railing) from the top of the top mount to the top of the plate. Keeping the mount centered on post, fasten mount to post with self-tapping pan head screws (provided).

- Before attaching bottom mount, remove bottom T30 Pan Head on end tensioning post, and install bottom mount with a 1/4" spacer on top of plate. To remove T30 Pan Head, turn counterclockwise to limit, then pry out with straight tip screwdriver.



- Place rails into mounts. Fasten rails through the side of mounts with flat head self-tapping screws provided. **Crossover Railing:** Fasten top rail to crossover adaptor with pan head screws provided.

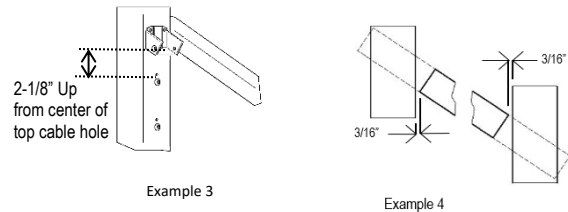
(Level) Railing cont'd

NOTE: If screw stops penetrating rails, rotate screw in reverse several revolutions while maintaining penetration pressure to remove potential material burr from tip of screw. Then continue to install screw, repeat, as necessary.

- Carefully align the mount cover on mount base before applying even, downward pressure to snap cover into place. (Mount Covers can be damaged if the above process is not followed).

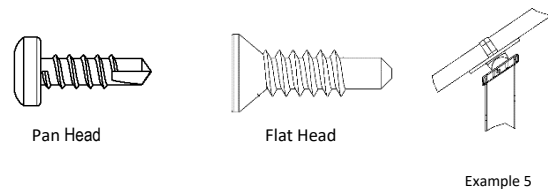
(Stair) Railing

- Position rails against posts. Bottom of top rail should be minimum of 2-1/8" from center of top cable hole. Clamp rails to post. Mark rails for cutting. Mark posts for each mount position (Example 3). Cut rails 3/16" shorter than mark on each end. Rails should be cut straight on each end (Example 4).



- Crossover Railing:** For crossover stairs set stair crossover kit into the 34° post. Fasten at proper height with self-tapping pan head screws provided. Mark top rails to cut making sure it fits snug into the crossover connector (Example 5). Set correct angle for crossover connector to match railing. Attach crossover rails with pan head screws. If bottom rails are used, cut the same as above in step 1.

- Attach mounts to post with pan head self-tapping screws (provided).



- Place stair top (bottom) rail into mounts.
- Attach rails to mounts by inserting flat head self-tapping screws (provided) through both sides of mounts. Lightly tap mount covers onto mounts. (Use caution when installing covers by applying pressure directly on top of the cover tab.)

(Stair) Swivel Mount

- Identify top swivel mount and bottom swivel mount.

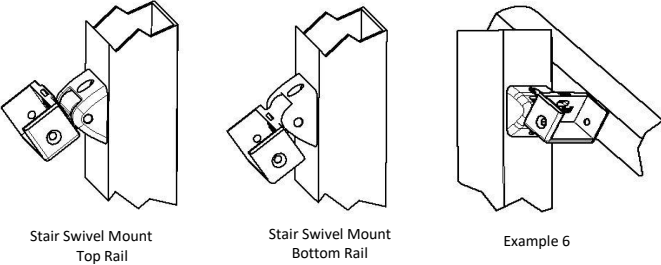
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- When installing bottom rail, lay (with approximately 1" clearance from the nose of the steps) beside the posts. Clamp rails to post. Hold swivel stair mounts up against posts and beside the rail to determine where rails are to be cut to fit inside the swivel stair mounts. Mark posts for each stair swivel mount position (Example 6).

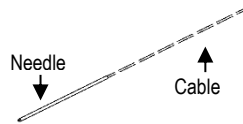
NOTE: This will vary depending on the angle of the stairs. Cut rails. Cut top rail at same length as bottom rail unless using crossover application.

- Attach top swivel mount base to post using pan head self-tapping screws (provided)
- Attach rails to mounts using flat head self-tapping screws (provided) on each side of rail.

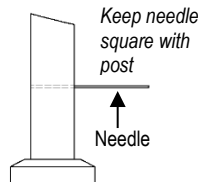
(Level) Cable

Note: Max straight cable run is 100 feet. For each corner post reduce this by 10%. **Example:** Two tensioning posts plus one corner non-tension post will be 90 feet. Max number of corners allowed with 90° angle is two. Max number with 45° angle is four.

- Insert needle on the end of your cable. Start lacing the cable at 1st line post from end tensioning post. Work from bottom to top.

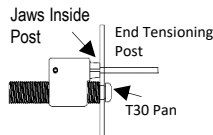


- Lace cable through all line, corner & stair post with needle. Keep needle straight and square with the post. Push/Pull the cable through the post guiding it out with needle. Remove needle from cable before inserting cable into end post.



Note: For 2½" x 4" post, a corner lacing tool will be required.

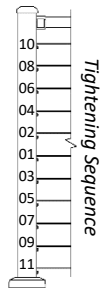
- Insert/secure cable into tensioning post. **Note:** If the cable does not grip into jaws, they are not set properly. To properly set, slowly turn the T30 pan head counterclockwise until you reach the limit.



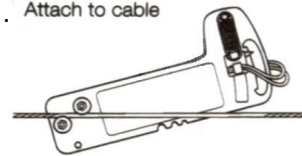
(Level) Cable cont'd

(Cable release position) No screw guns or impact drivers. Then, slowly rotate T30 pan head clockwise; stop when jaws move inside post. (Cable engagement position) Insert cable until it stops.

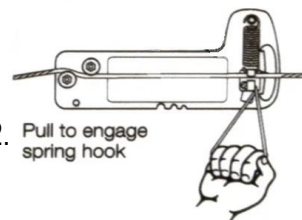
- Go to the other end of cable and pull tight and place against the tension post. Mark wire 1" past post face and cut.
- Insert/secure cable as step 3 above.
- Repeat lacing all cables on post. Do not tighten cables, go to **(Level) Spacer balusters** before proceeding.
- Start tightening cables. (See tightening Sequence) Use a ratchet with a T30 bit or a battery-operated screwdriver only. Use the battery-powered screwdriver to remove excess slack from the cable. Complete final tensioning using hand tools (ratchet) only. **No screw guns or impact drivers.** Tighten (T30 pan head) to secure the cable, turning it clockwise to tighten and counterclockwise to loosen. The proper cable tension is 220 ± 20lbs. per cable. #20 on the scale. A cable tension gauge is recommended. If additional tightening is necessary, move to other tensioning post. **Do not over tighten.**



- Attach to cable



- Pull to engage spring hook



- Read gauge and check chart

LOS & CO.
PROFESSIONAL
TENSION GAUGE
MODEL PT-1

LBS. TENSION		CABLE DIAM.
% BREAK STRENGTH		
SCALE	3/32	
5	70	1/8
8	100	
10	125	
13	160	5/32
16	200	
18	240	155
21	300	
	240	4%
	155	4%

We recommend #20 on the scale. Do not over tighten!

Note: When tightening cable, ensure that you pull the cable taut at all corner non-tension posts. This will help maintain the proper tension throughout. You may need to trim the length of the cable if you cannot reach proper cable tension.

(Stair) Cable

- Beginning at lower end of stairs, lace top cable through stair line post(s) (if applicable). Insert cable into jaws on upper end post.
- Place cable against the side of lower end post at cable hole and pull tight. Mark 1½" past post face. Cut cable and insert it into jaws.

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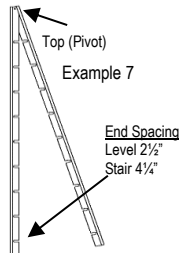
(Stair) Cable cont'd

- Repeat steps 1 & 2 all the way down the post. Go to **(Stair) Spacer balusters** before proceeding.
- Start tightening cables. **(See tightening Sequence above)** Use a ratchet with a T30 bit or a battery-operated screwdriver only. Use the battery-powered screwdriver to remove excess slack from the cable. Complete final tensioning using hand tools (ratchet) only. **No screw guns or impact drivers.** Tighten (T30 pan head) to secure the cable, turning it clockwise to tighten and counterclockwise to loosen. The proper cable tension is 220 ± 20 lbs. per cable. #20 on the scale. A cable tension gauge is recommended. If additional tightening is necessary, move to other tensioning post. **Do not overtighten.**

(Level) Spacer Baluster

Note: If T30 pan heads are hard to get to with your drill, use an Allen wrench or right-angle ratchet.

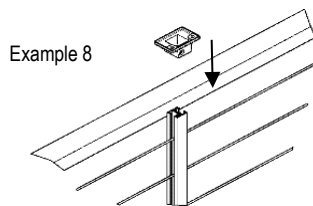
- Identify Spacer Baluster for level. Required for post spacing exceeding 4 ft. (Level has a shorter end spacing to holes. Open Baluster as shown in (Example 7).



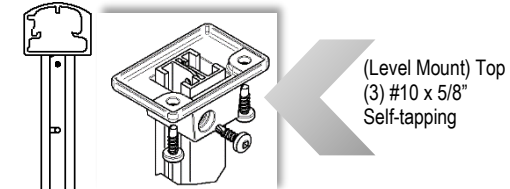
- Place Baluster over top cable and close over all cables. See (Example 9) for Baluster and mount requirements. Space Balusters evenly between post.

- With the cables loose, pull baluster out and up from under top rail. Slide on top & bot mounts. (Example 8)

Note: Position level mounts so screws holes are facing toward deck. When installing a bottom rail, baluster will need to be cut.

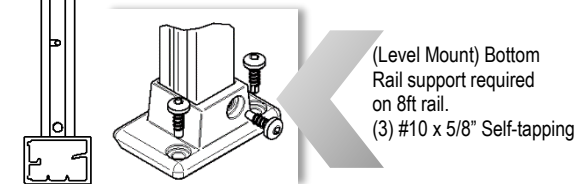


(Level) Spacer Baluster cont'd



Example 9

Please note: Begin by inserting screws into the top mount first. Then, plumb baluster and insert screws accordingly.



(Stair) Spacer Baluster

- Identify Spacer Baluster for stairs. Required for post spacing exceeding 4 ft. (Stair has longer end spacing to holes. See Example 7).
- Place Baluster up against rails, verify holes are lined up with cables. Pivot should be to the bottom. Mark top & bottom baluster with pencil and cut. Mark the pivot end after cutting, this will be the bottom of your baluster.
- Place Baluster over cables and snap together over all cables. Keep the holes in the baluster lined up, since you have cut the pivot pin off. Baluster and mount requirements (Example 10) below.
- With the cables loose, pull baluster out and up from under top rail. Slide on top & bot mounts. (Example 8)

Please note: Begin by inserting screws into the top mount first. Then, Plumb the baluster and insert screws accordingly. Level mount screw holes should be facing inside toward stairs for ease of installing screws.

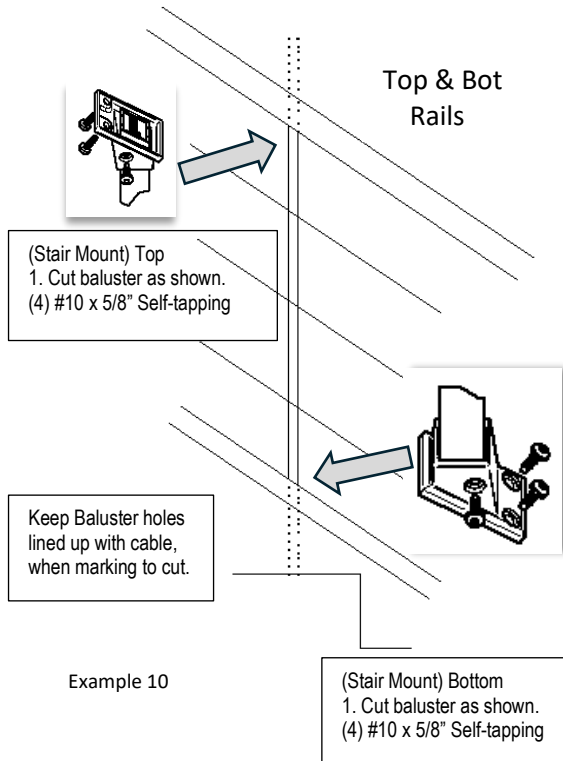
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Care and Cleaning

Remove all particles and residue from Westbury aluminum components by referring to the Care and Cleaning requirements on the DSI website. Scan Below:



Warranty

For product Warranty and Registration please scan below:

