

Installing AZEK Evolutions Rail™

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Important Information

- Please read all instructions completely before starting any part of the installation.
- Evolutions Rail™ should be installed using the same good building principles used to install wood, composite, or metal railing and in accordance with the local building codes and the installation guidelines included below.
- AZEK® Building Products accepts no liability or responsibility for the improper installation of this product.
- Evolutions Rail may not be suitable for every application and it is the sole responsibility of the installer to be sure that Evolutions Rail is fit for the intended use. Since all installations are unique, it is also the installer's responsibility to determine specific requirements in regards to each rail application.
- AZEK® Building Products recommends that all applications be reviewed by a licensed architect, engineer or local building official before installation. If you have any questions or need further assistance, please call AZEK Customer Service at 877-ASK-AZEK (877-275-2935) or TimberTech Customer Service at 800-307-7780, or visit our website at www.azek.com or www.timbertech.com.
- Evolutions Rail is tested as a whole system and should be used that way. It is not intended to be used in conjunction with other railing systems or fasteners.
- The following Installation Guidelines are applicable for installation of Evolutions Rail only.
- **IMPORTANT:** Make sure the DRIVE TOOL/DRILL is configured or set to use the SCREW setting when driving and/or tightening all FASTENERS.
- **SAFETY:** Always wear goggles when handling, cutting, drilling and fastening materials.
- Failure to install this product in accordance with applicable building codes and Evolutions Rail's written Rail Install Guide may lead to personal injury, affect rail system performance and void the product warranty.
- The buildup or generation of static electricity is a naturally occurring phenomenon in many plastic based products such as carpeting, upholstery, and clothing, and can occur on alternative decking under certain environmental conditions. This static electricity can discharge once contact is made with hardware, railing, or other conductors of electricity.

Visit www.timbertech.com/installation to view TimberTech installation videos.
Consult your local building codes for guard and handrail requirements.

Evolutions Rail™ Contemporary Rail Packs are available in 6' or 8' lengths.

Measuring Your Railing Area

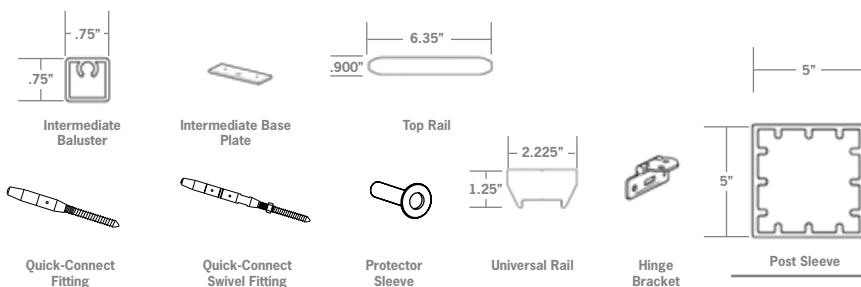
- Measurements are from center to center of post. Packs are produced to 6' and 8' to allow for finished end cuts and angles.
- Determine how many 6' or 8' Contemporary Rail packs you need and check to be sure you have all the components (and quantities) listed in the chart and shown to the right.

Important Information



- Contemporary Style 6' and 8' Packs are designed not to exceed 6' and 8' center of post to center of post, respectively.
- Cut slowly, using a fine tooth saw blade to avoid chipping.
- For 42" railing, use 8' Post Sleeves.
- Evolutions Rail Contemporary Style is designed and tested solely for over the post applications with the top rail profile affixed to the top of the structural 4x4.
- This does not include applications where the 4x4 posts extend above or through the top rail profile.
- Evolutions Rail Contemporary requires a top rail profile (deck plank) to complete the system for a proper installation and code compliance.

Component Dimensions

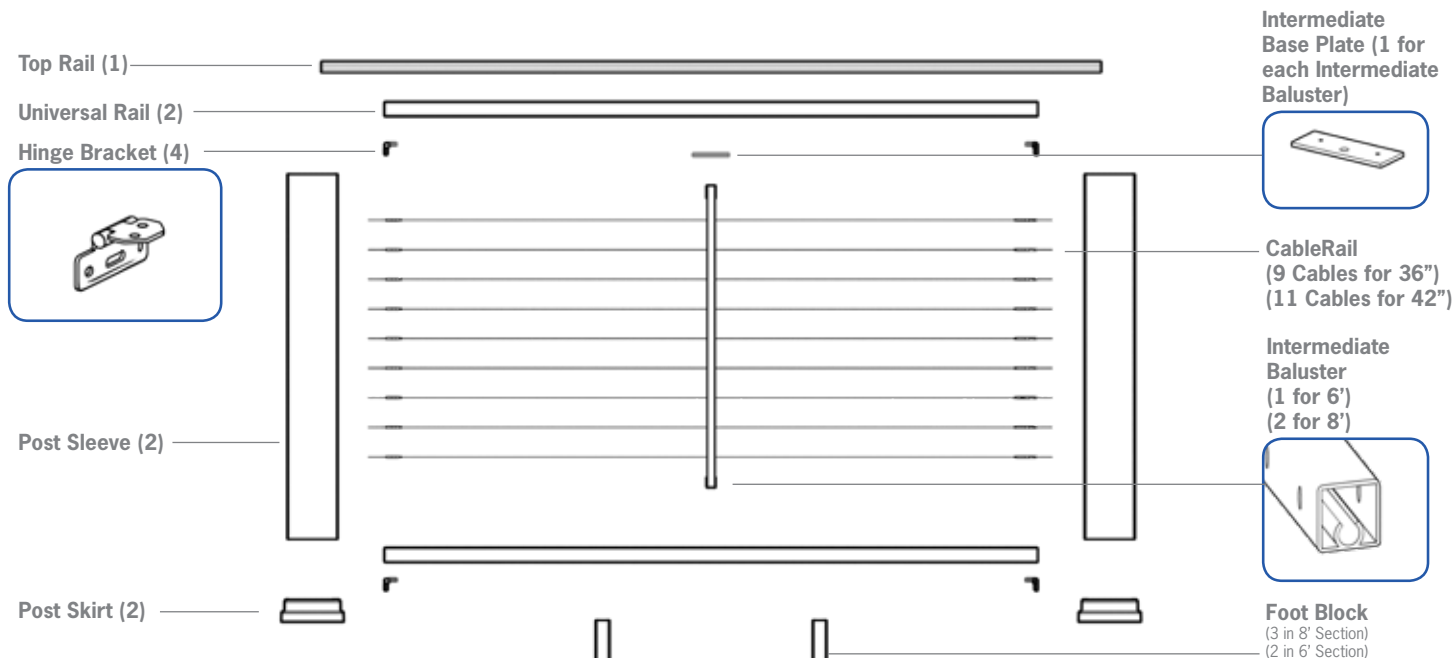


Tools Required

- Miter Saw (blade designed for finished cuts)
- Drill
- Cable Cutters
- Extended 1/4" drill bit
- 2 - 3/8" open-ended wrenches
- Drill Bits: 1/4", 3/16", 1/8", 9/64"
- Tape Measure
- #2 square drive

Components Needed For Installing One Contemporary Style Rail Section

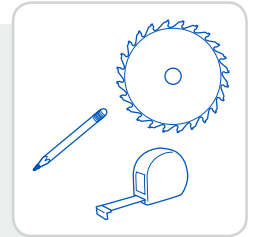
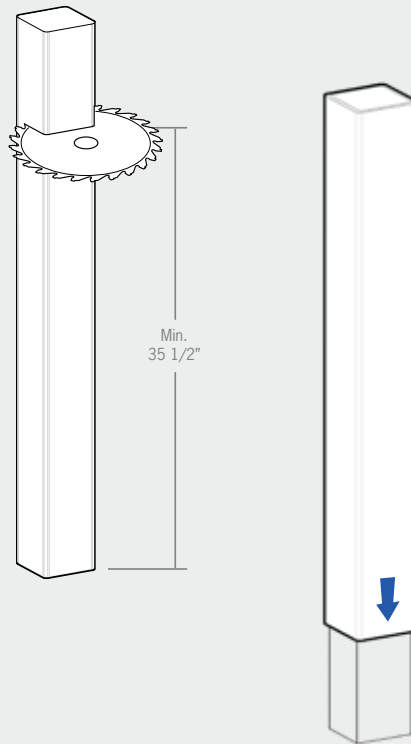
Hardware included in Hardware Kits:	4 - Hinged Brackets 11 - #10x2" Screws 8 - #10x7/8" Screws 4 - #10x1/2" Screws T25 Torx Driver Bit
Components available in Mix-and-Match Rail Systems	2 - Universal Rails Hardware Mounting Kit 8 - Top Rail screws Foot blocks - 2 in 6' Pack - 3 in 8' Pack
Contemporary Rail Pack	
CableRail Components	36" Intermediate Baluster - 1 for 6' -2 for 8' 42" Intermediate Baluster - 1 for 6' -2 for 8' Stair Intermediate Baluster - 1 for 6' -2 for 8' Cable - 100' spool or 500' spool 36" Hardware Kit - 9 Quick Connect Fittings - 9 Quick Connect Swivel Fittings - 18 Hanger Bolts - 9 Lock Nuts 42" Hardware Kit - 11 Quick Connect Fittings - 11 Quick Connect Swivel Fittings - 22 Hanger Bolts - 11 Lock Nuts
Additional Components Needed for Each System	2 - Post Sleeves 2 - Post Skirts 1 - Contemporary Top Rail End Coating- optional CableRail Accessory Pack Includes: - Quick-Connect Release Tool - Lacing Needle - Hanger Bolt Installation Tool Protector Sleeves - 42" system: 22 per through post - 36" system: 18 per through post



1

CUT POSTS AND TEMPORARILY INSTALL POST SLEEVES

- Posts must be positioned no more than 8' on center, and must be plumb.
- Trim post a min of 35 1/2" (for 36") or 41 1/2" (for 42") above finished deck surface.
- Slide Post Sleeve over 4x4 Post (do not force).

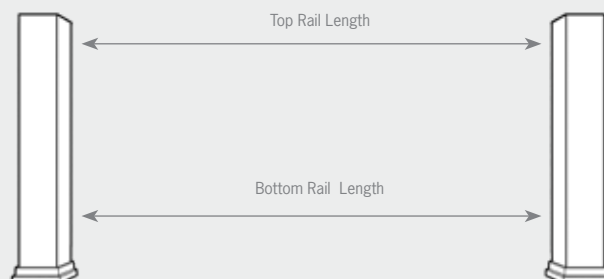
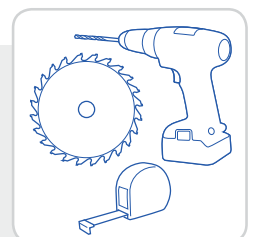
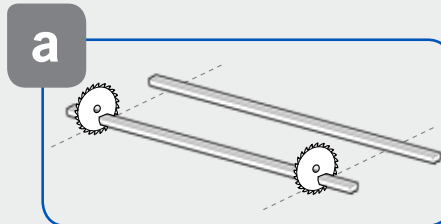


⚠ Do not cut Post Sleeves in this step.

2

PREPARE UNIVERSAL RAILS

- Measure the length between the posts and trim the rails to those dimensions.
- Pre-Drill Universal Rails with a 9/64" drill bit, attach provided brackets to the Universal Rails using the #10 x 7/8" screws.



3

DETERMINE INTERMEDIATE BALUSTER LOCATION

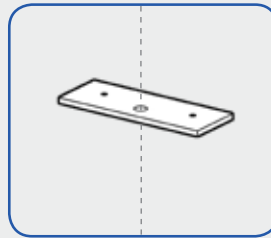
- Use the Intermediate Base Plate of the Intermediate Baluster as a template on the bottom Universal Rail.

1' to 6' on center requires 1 Intermediate Balusters.

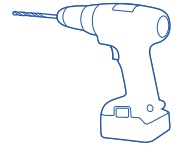
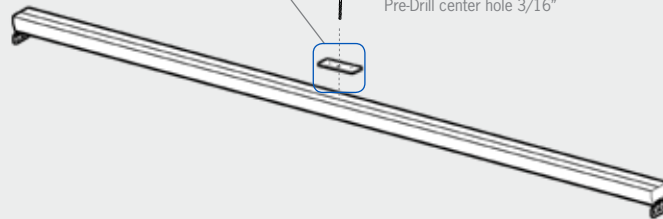
6' to 8' on center requires 2 Intermediate Balusters.



Pre-drilled hole will be offset from the centerline.



Pre-Drill center hole 3/16"



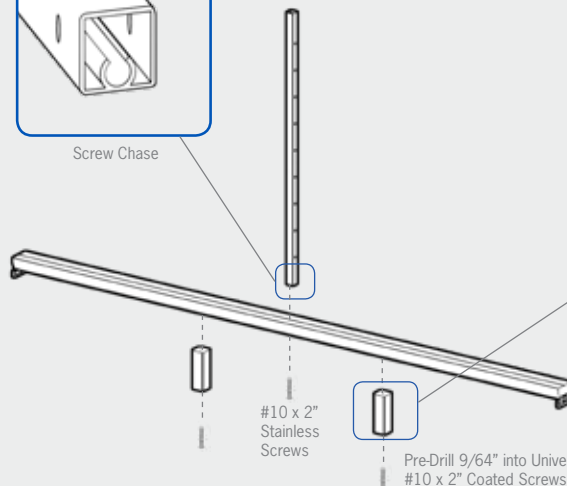
4

ATTACH INTERMEDIATE BALUSTER AND FOOT BLOCKS

- Attach the Intermediate Baluster to the bottom Universal Rail using the #10x2" screw.
- Attach provided foot blocks to the underside of one Universal rail by counter-boring the foot block and using the #10x2" screws.

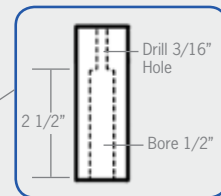


Screw Chase

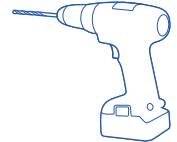


#10 x 2"
Stainless
Screws

Pre-Drill 9/64" into Universal Rail
#10 x 2" Coated Screws



Foot Block Preparation



Be sure the screw finds the screw chase.
For easier installation, pre-drill screw chase with a 3/16" drill bit.

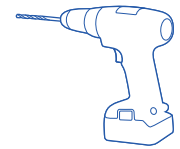
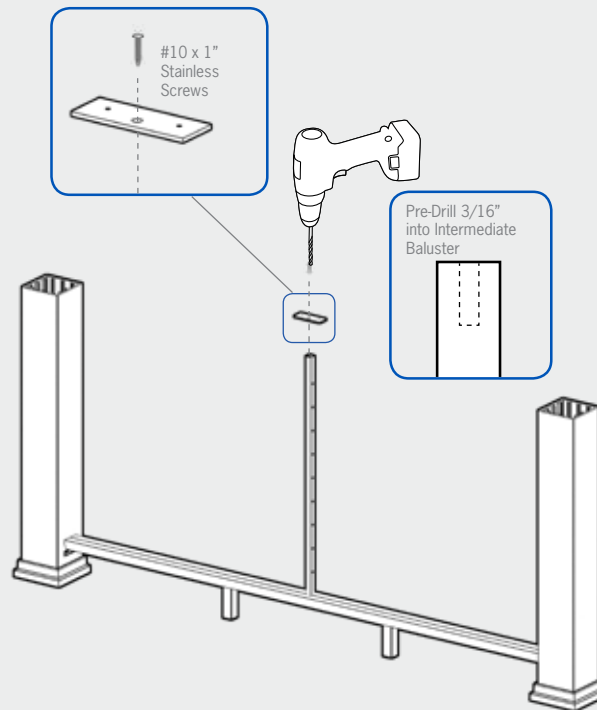
For sections up to 6': Place two Foot Blocks at 1/3 intervals on the rail.

For sections 6' to 8': Space three Foot Blocks approximately at 1/4 intervals on the rail.

5

ATTACH BASE PLATE TO INTERMEDIATE BALUSTER

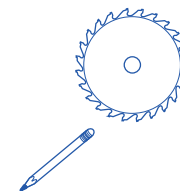
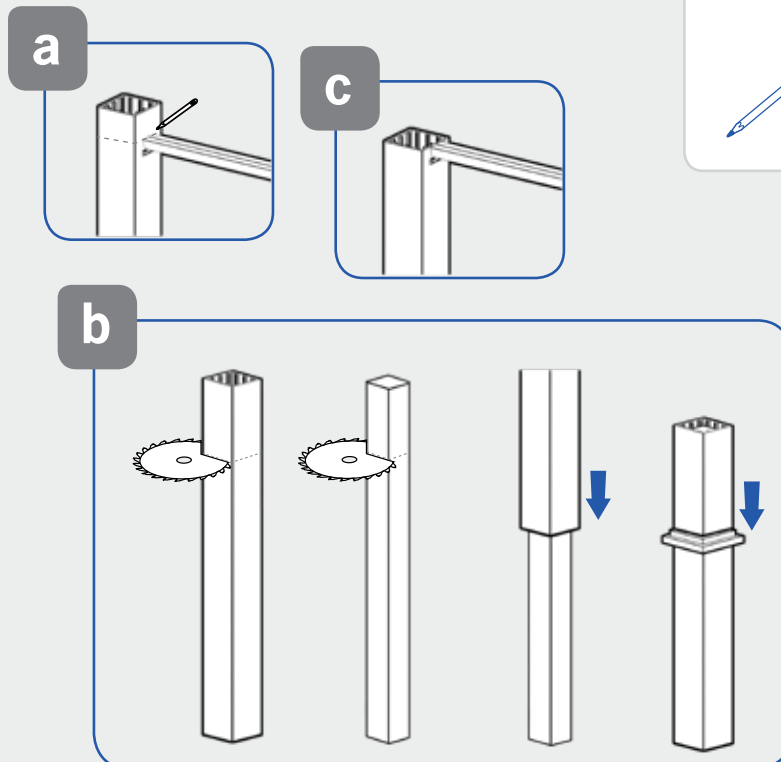
- Place the bottom Universal Rail and allow the rail to rest on its foot blocks.
- Attach base plate to the Intermediate Baluster.



6

MEASURE AND CUT POST SLEEVES

- Temporarily install top Universal Rail.
- Mark the height of the Post Sleeves.
- Cut your Post Sleeves and posts to desired length.
- Place the Post Sleeves over the 4x4 posts.
- Slide Post Skirts over Post Sleeves.

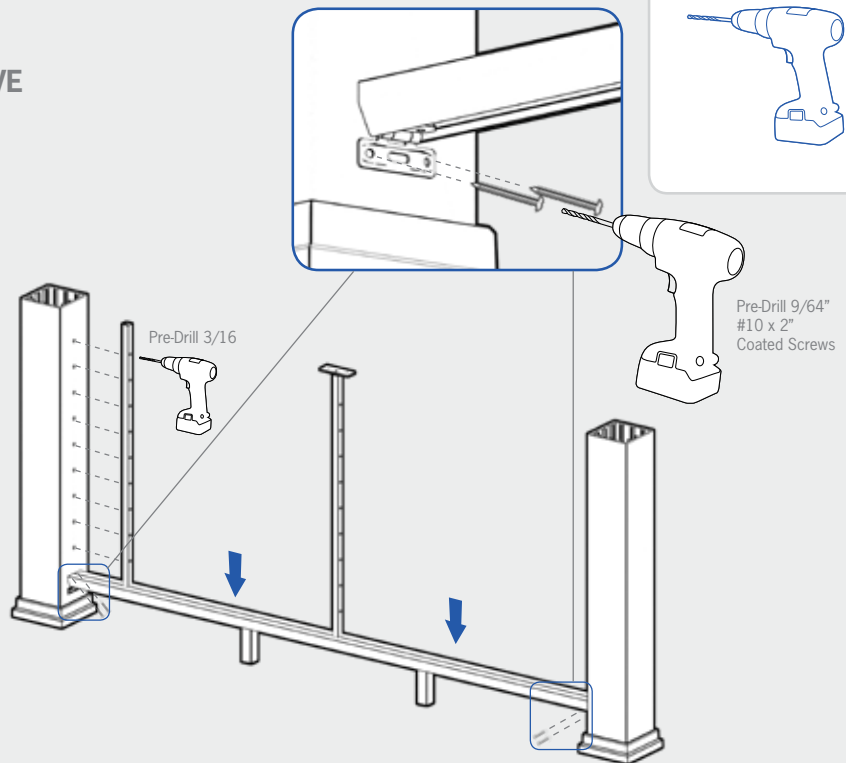


Post Sleeves should be flush with the top Universal Rail.

7

**ATTACH BOTTOM UNIVERSAL
RAIL AND TRANSFER HOLE
LOCATION ONTO POST SLEEVE**

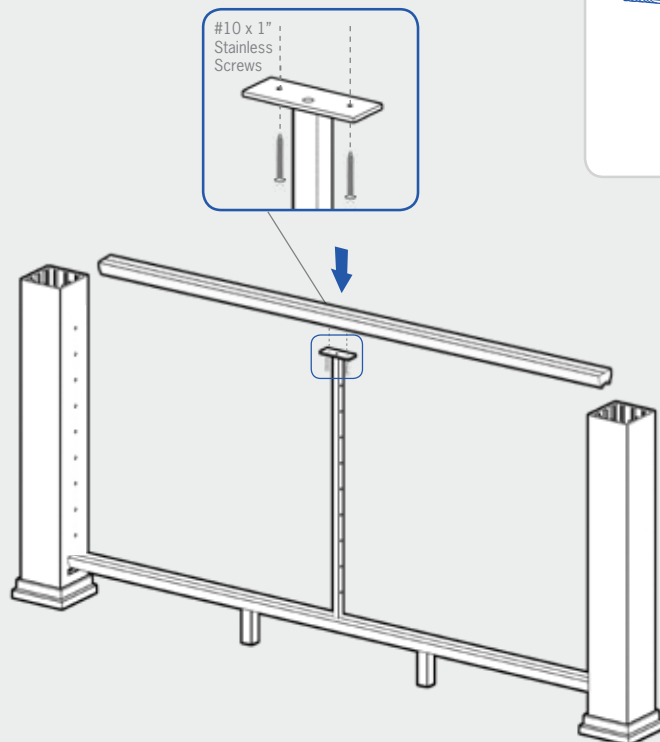
- Set the bottom Universal railing into place and Pre-Drill pilot holes through the Post Sleeve and into the post through the bracket holes. Secure with #10x2" screws.
- Use an extra Intermediate Baluster as a template for the CableRail hardware and through holes. Use a 3/16" drill bit to transfer your marks to the Post Sleeves.



8

**TRIM TOP RAIL
AND SECURE TOP
UNIVERSAL RAIL**

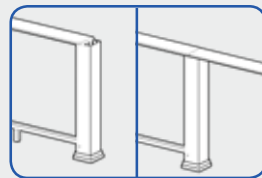
- Attach Intermediate Baluster to the underside of the top Universal Rail with 2 #10x1" screws.



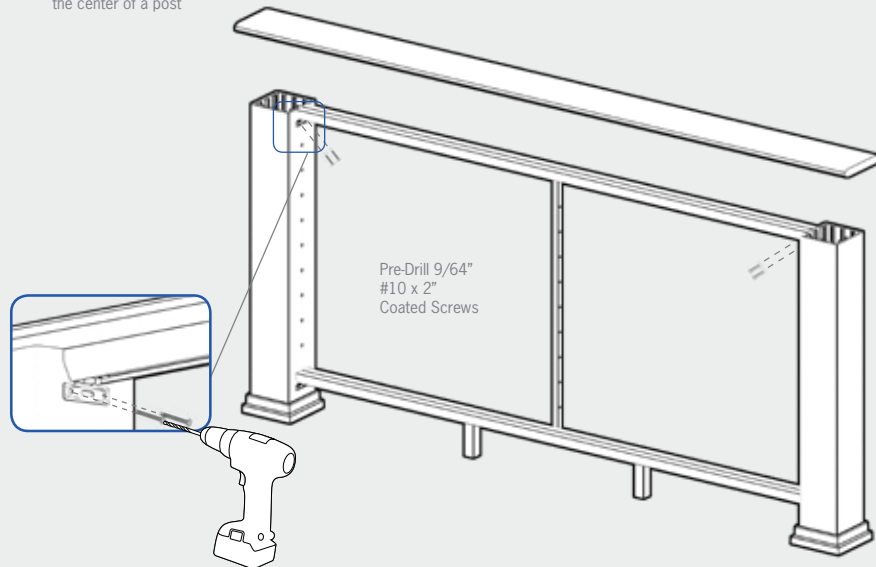
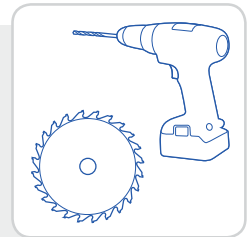
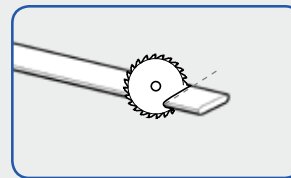
9

SECURE TOP UNIVERSAL RAIL & TRIM TOP RAIL

- Pre-Drill pilot holes through the Post Sleeve and into the post through holes in the brackets of the top Universal Rail and fasten using #10 x 2" Coated Screws.
- Cut the Top Rail so that any seams fall at the center of a post.



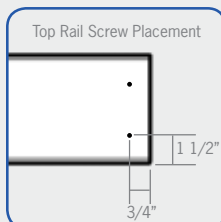
Make sure any seams fall at the center of a post



10

INSTALL TOP RAIL

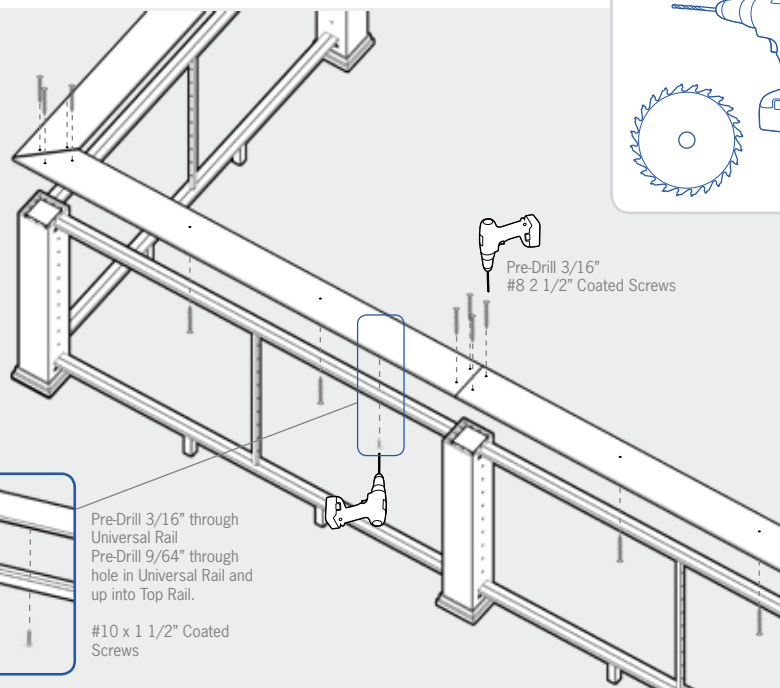
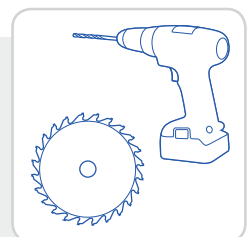
- Cut Top Rail so that any seams fall at the center of a post. Miter the planks at corner posts.
- All fastener locations must be pre-drilled with a 3/16" drill bit, or mushrooming or splitting may occur.



Pre-Drill 3/16" through
Universal Rail
Pre-Drill 9/64" through
hole in Universal Rail and
up into Top Rail.
#10 x 1 1/2" Coated
Screws



Pre-Drill 3/16"
#8 2 1/2" Coated Screws

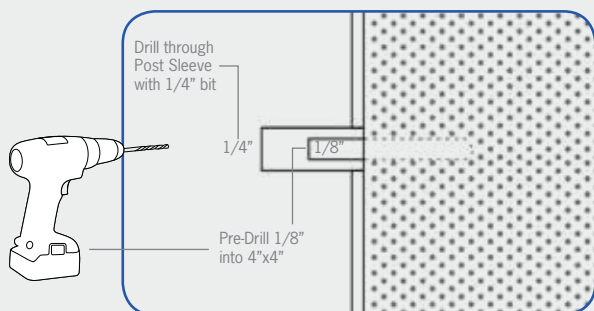


If your rail has stair sections, start installing the cap at the stairs. Wait until all rail sections are complete before beginning Top Rail installation.

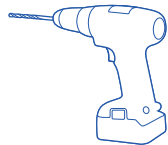
1

PRE-DRILL ANCHOR POST SLEEVE

- Using the marks on the Anchor Posts, drill a through hole only in the Post Sleeve with a 1/4" drill bit.



Anchor posts should not exceed 60 feet apart during any continuous run of cable.



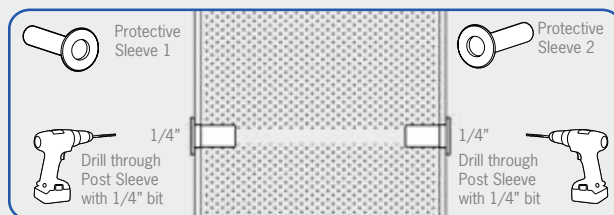
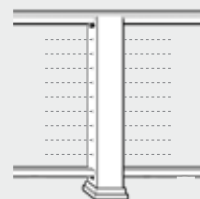
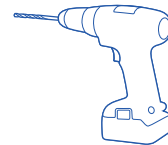
2

PRE-DRILL THROUGH POST SLEEVES

- For the through posts, drill a 1/4" hole through both the Post and Post Sleeve.

Optional - Protector Sleeves are not required on the through posts, but do offer a more finished appearance.

If needed, use a dab of adhesive on Protector Sleeves.

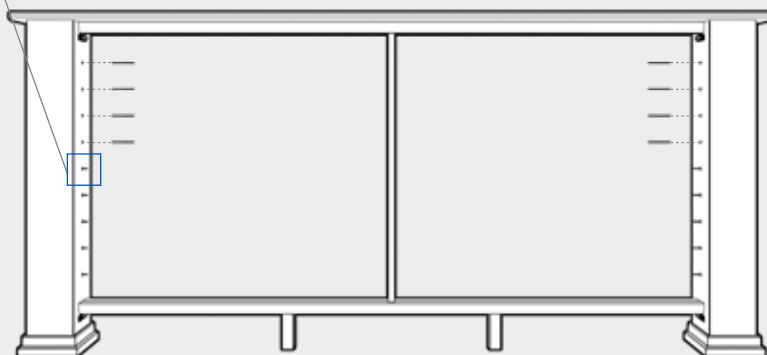
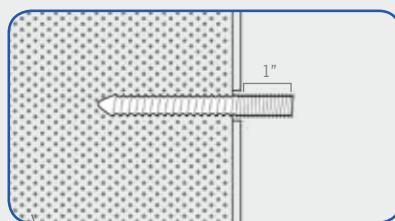


3

DRIVE IN HANGER BOLTS

- On Anchor Posts, screw the Hanger Bolts into the pilot holes in the Post with the Hanger Bolt Installation Tool.

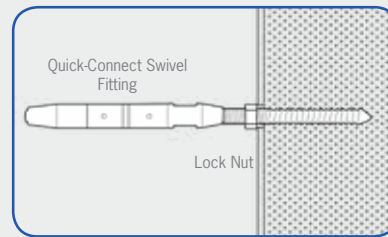
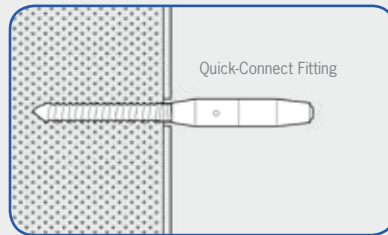
Leave about 1" of machine thread exposed for cable take-up.



4

ATTACH QUICK-CONNECT FITTINGS

- Screw on Quick-Connect fitting onto one side of the railing and Quick-Connect Swivel fittings lock nuts onto the hanger bolts on the other side.



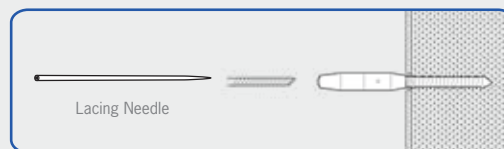
One side of the railing will be only Quick-Connect fittings, the other side will be Quick-Connect swivel fittings and lock nuts

5

INSERT AND THREAD CABLE

- When all of the hardware is in place, insert one end of the Cable into the Quick-Connect fitting.

Feed the Cable through the Intermediate Baluster (or through posts) with a lacing needle.



6

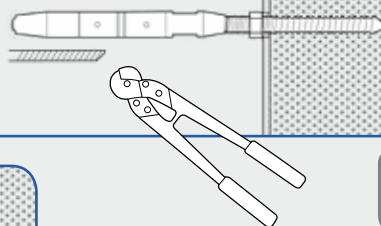
CUT CABLE TO LENGTH

a

Unscrew the Quick-Connect swivel fitting from the post to measure length of cable

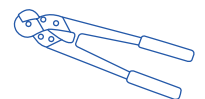
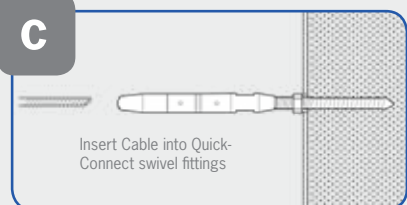
b

Trim Cable at the first cut line on Quick-Connect Swivel Fittings



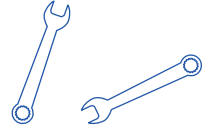
c

Insert Cable into Quick-Connect swivel fittings



7

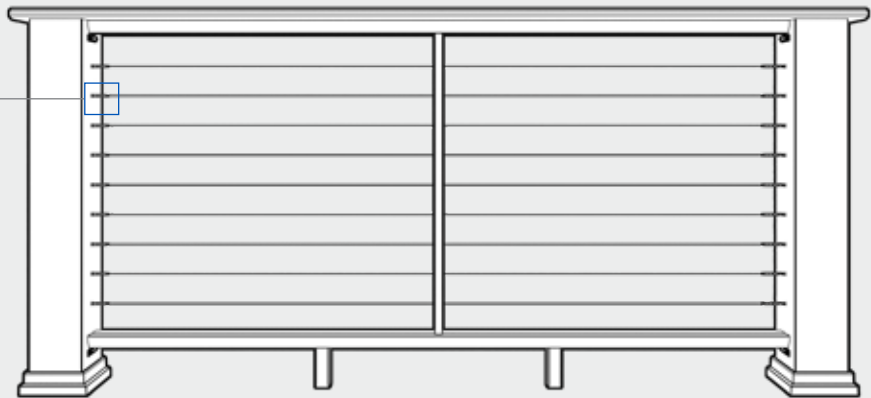
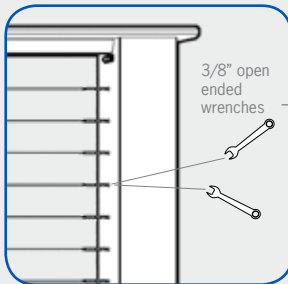
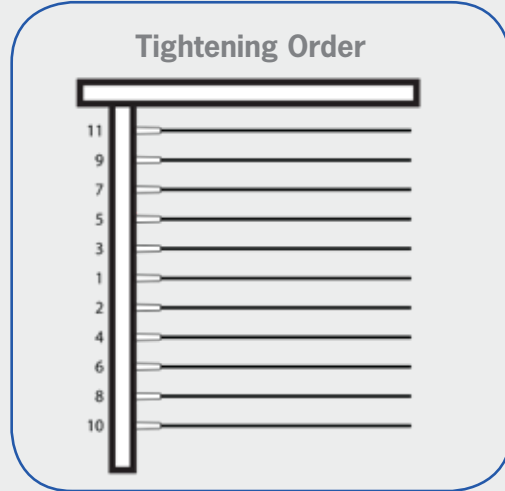
TIGHTEN CABLE



- Use a set of 3/8" open-ended wrenches to tighten the Cable using the "swivel" end insuring the Cable does not twist.

If necessary, the Cable can be removed from the Quick-Connect fitting by using the Quick-Connect Release Tool.

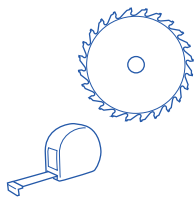
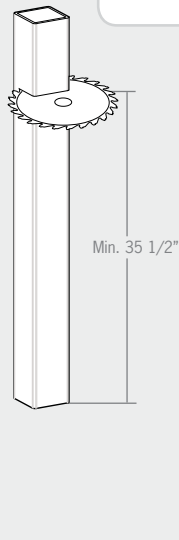
- Once the Cable is tight, tighten the lock nuts against the Quick-Connect fitting.



1

CUT POSTS AND TEMPORARILY INSTALL POST SLEEVES

- Posts must be positioned no more than 8' on center, and must be plumb.
- Trim post a min of 35 1/2" (for 36") or 41 1/2" (for 42") above finished deck surface.
- Slide Post Sleeve over 4x4 Post. Do not force.
- Posts may need to be slightly taller for stairs.

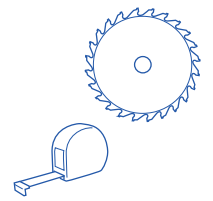
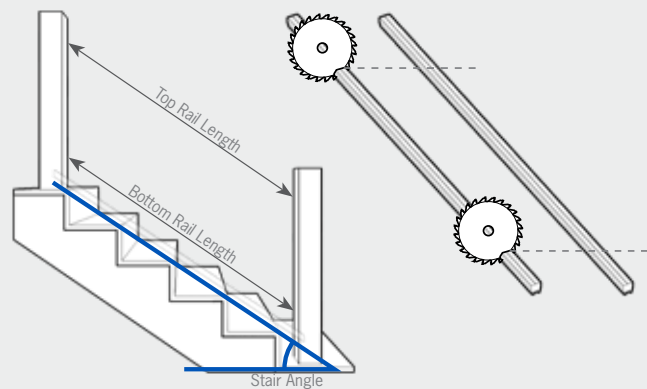


⚠ Do not cut Post Sleeves in this step.

2

MEASURE AND TRIM UNIVERSAL RAILS

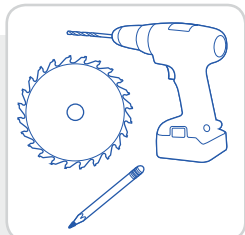
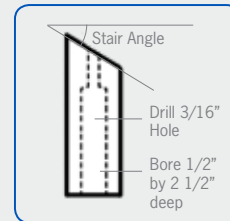
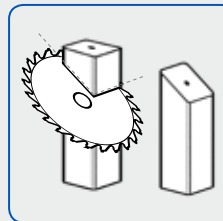
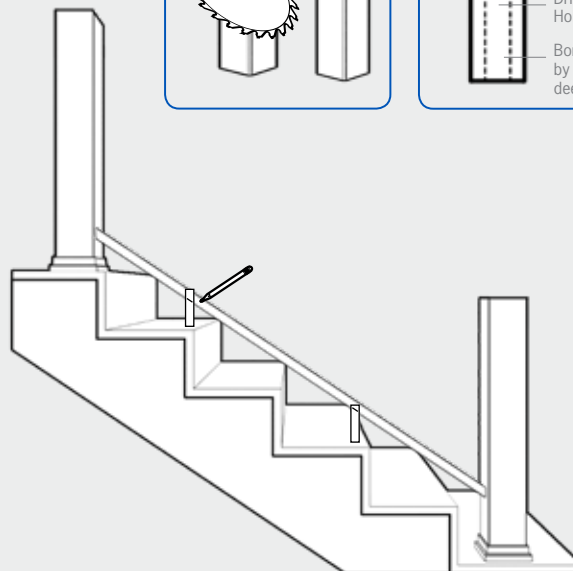
- Rest the bottom Universal Rail on stairs and transfer the length and angle of the stairs onto the rail.
- Trim the rails to necessary length and angle.



3

PREPARE FOOT BLOCKS

- Temporarily place bottom Universal Rail in place to plan where Foot Blocks will go.
- Cut Foot Blocks to length at the correct angle.
- Counter-bore the foot block and using the #10 x 2" screws



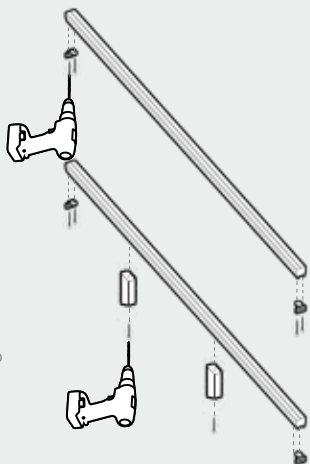
4

ATTACH FOOT BLOCKS AND BRACKETS

- Attach provided brackets to the Universal Rails.

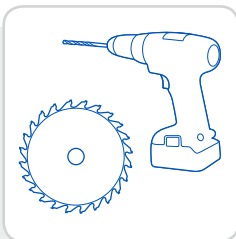
Pre-Drill 9/64" through Brackets
#10 x 7/8" Coated Screws

Pre-Drill 9/64" into
Universal Rails
#10 x 2" Coated
Screws



For sections up to 6': Place two Foot Blocks at 1/3 intervals on the rail.

For sections 6' to 8': Space three Foot Blocks approximately at 1/4 intervals on the rail.

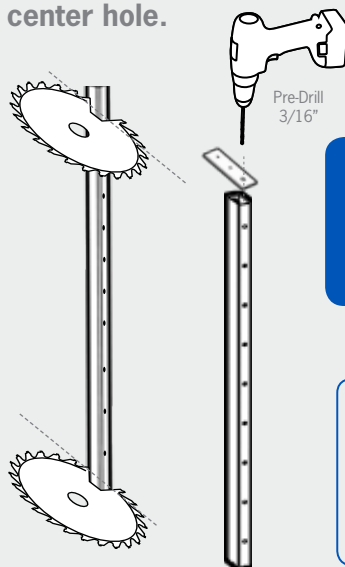


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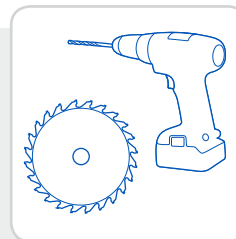
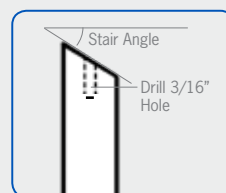
TRIM INTERMEDIATE STAIR BALUSTERS

- Trim Baluster to length and angle. Pre-Drill center hole.

Pre-Drill
3/16"



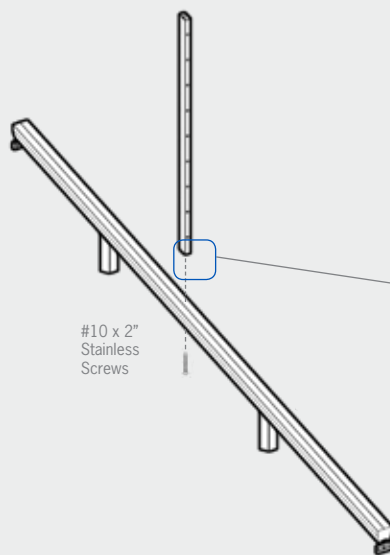
1' to 6' on center requires 1 Intermediate Balusters.
6' to 8' on center requires 2 Intermediate Balusters.



6

ATTACH INTERMEDIATE BALUSTERS

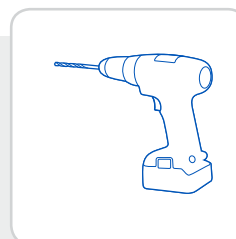
- Pre-drill screw chase in Intermediate Balusters with a 3/16" bit.
- Attach Intermediate Balusters to the bottom Universal Rail using #10 x 2" screws provided.



#10 x 2"
Stainless
Screws



Screw Chase



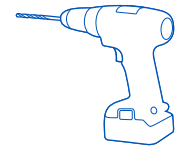
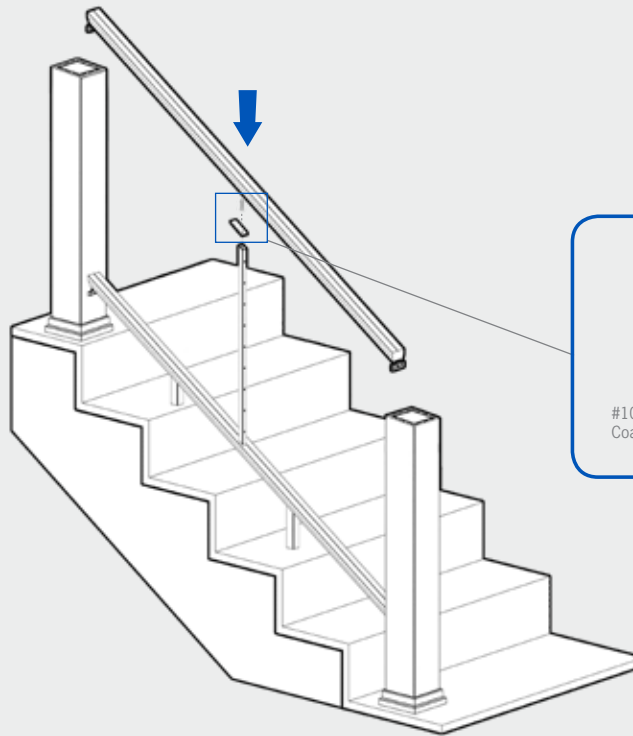
Be sure the screw finds the screw chase.

For easier installation, pre-drill screw chase with a 3/16" drill bit.

7

ATTACH BASE PLATE TO INTERMEDIATE BALUSTERS

- Set the bottom Universal Rail in place and allow the rail to rest on its Foot Blocks.
- Attach base plate to the Intermediate Baluster.
- Place top Universal Rail on assembly but do not fasten.



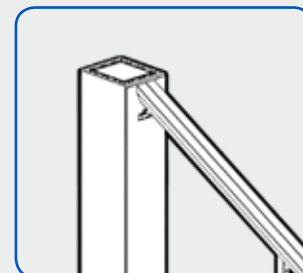
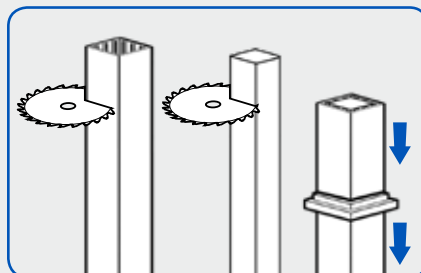
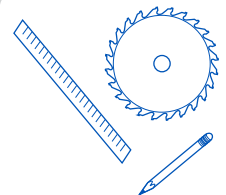
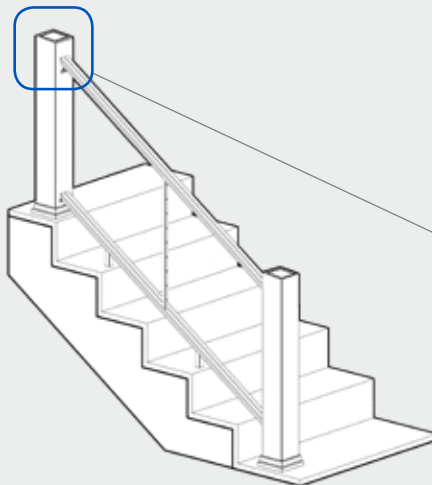
#10 x 1"
Coated Screws

8

MEASURE AND TRIM TOP POST AND TOP POST SLEEVE

- Mark the top of the top Universal Rail.
- Remove Post Sleeve and trim to length, then Trim Post to same length.
- Replace Post Sleeve.

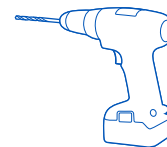
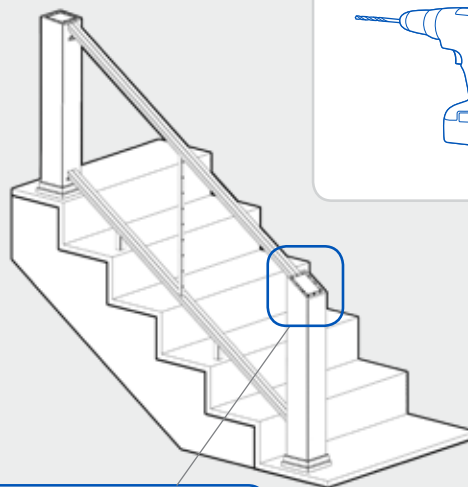
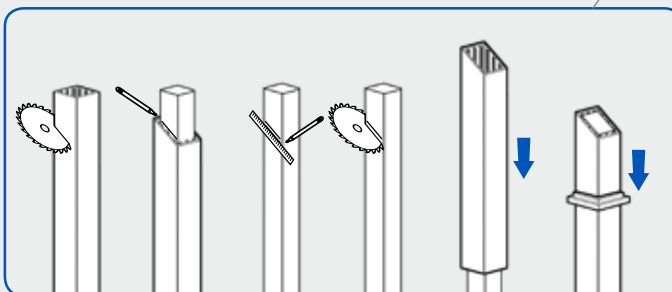
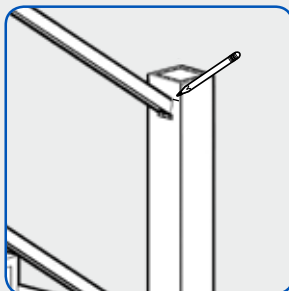
Post Sleeves should be flush with top Universal Rail.



9

MEASURE AND TRIM BOTTOM POST AND BOTTOM POST SLEEVE

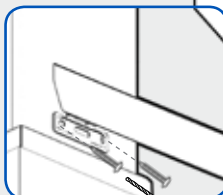
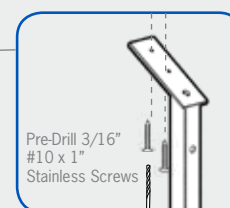
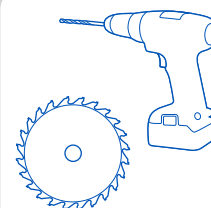
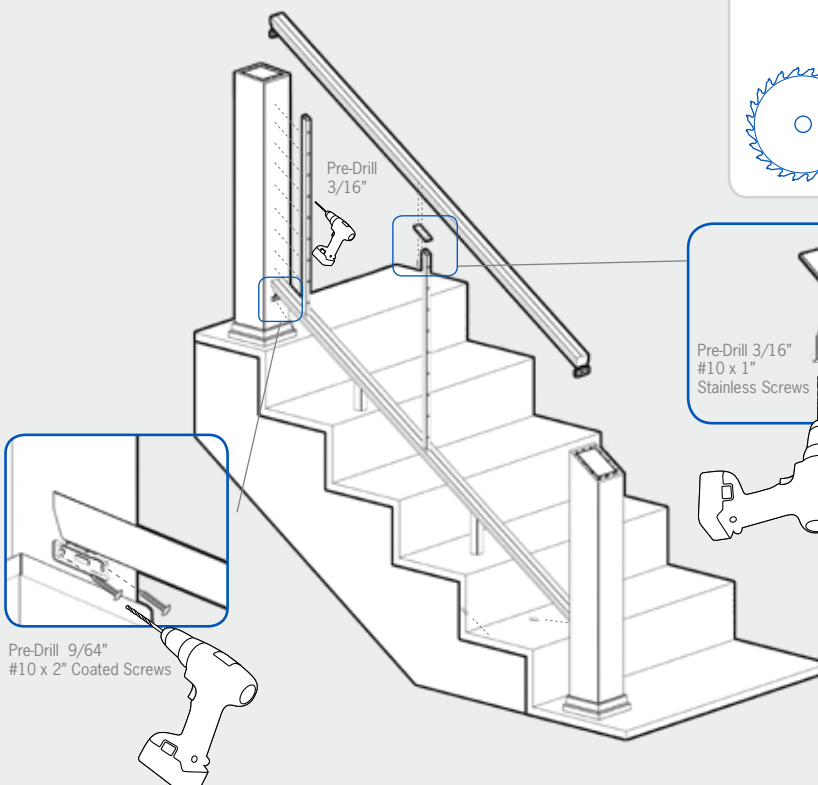
- Mark where Top Universal Board meets Bottom Post Sleeve.
- Remove Post Sleeve and trim to stair angle. Replace Post Sleeve.
- Use Post Sleeve to mark the angle of cut on Post. Remove Post Sleeve.
- Using a straight edge, draw a line roughly 1/8" below previous mark on Post.
- Trim Post at lower line.
- Replace Post Sleeve.
- Slide on Post Skirts.



10

INSTALL BOTTOM UNIVERSAL RAIL

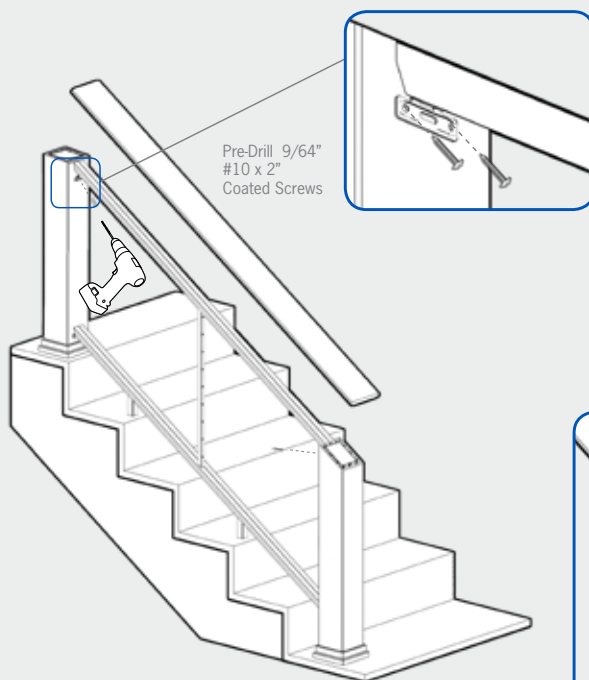
- Attach the Bottom Universal Rail to the Posts
- Attach Intermediate Baluster to the underside of the top Universal Rail with the 2 #10x1" screws.
- Use an extra Intermediate Baluster, rested at the bottom Universal Rail, as a template for the CableRail hardware and through holes.
- Use a 3/16" drill bit to transfer your marks onto the Post Sleeve.



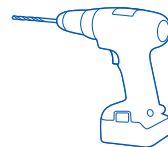
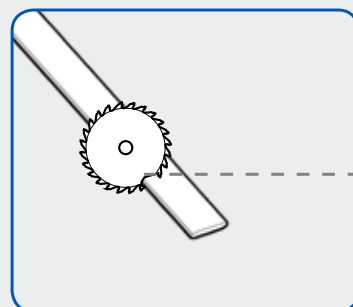
11

SECURE TOP UNIVERSAL RAIL AND PREPARE TOP RAIL

- Pre-Drill pilot holes through the Post Sleeve and into the post through holes in the brackets of the top Universal Rail.
- Cut the Top Rail so that any seams fall at the center of a post.



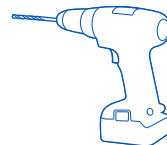
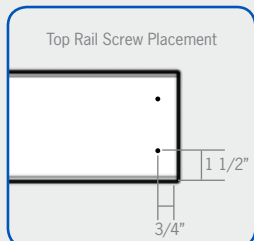
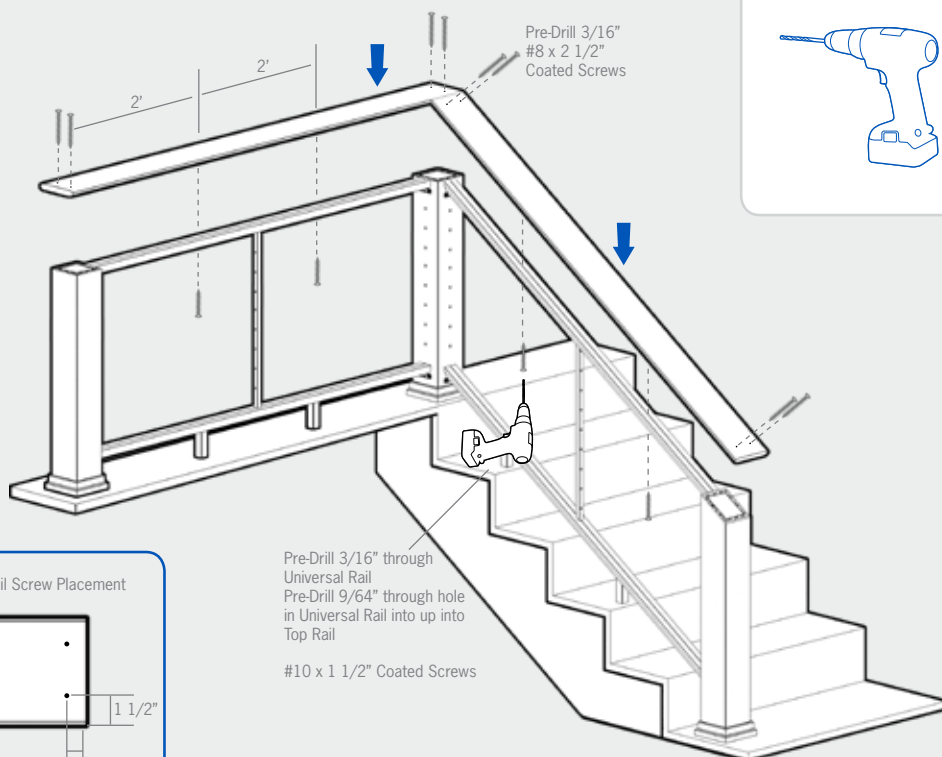
Make sure any seams fall at the center of a post



12

INSTALL TOP RAIL

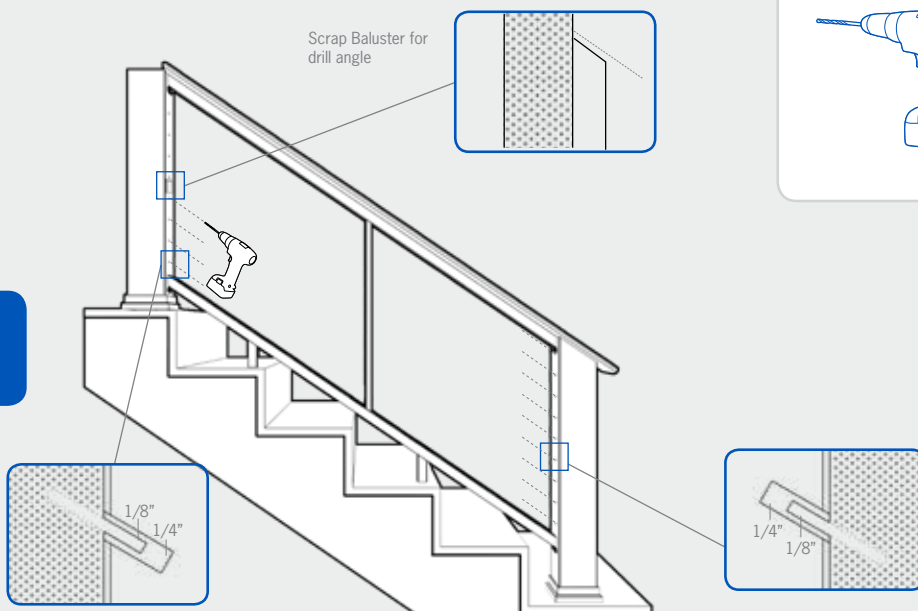
- Finish railing system by applying an Evolutions Contemporary Top Rail to the top of the rail assembly.
- Use optional End Coating on exposed Top Rail ends.
- All fastener locations must be pre-drilled with a 3/16" drill bit, or mushrooming or splitting may occur.



1

PRE DRILL POST SLEEVES

Drill a through hole only in the Post Sleeve with a 1/4" drill bit at the same angle as the stair run.



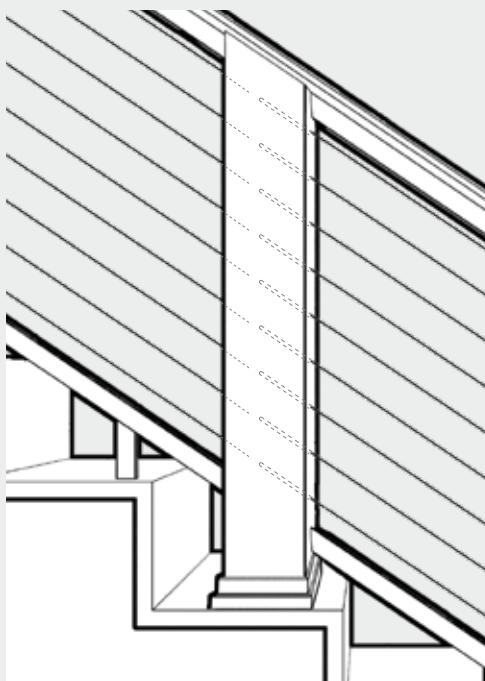
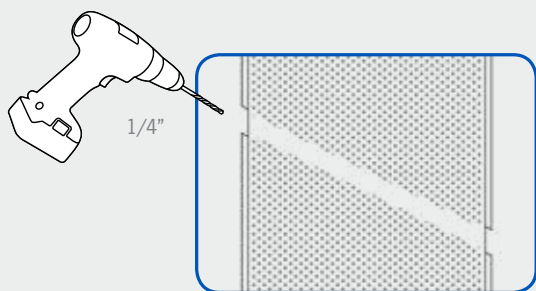
Use a scrap piece of baluster trimmed at the stair angle as a guide.

Anchor posts should not exceed 60 feet apart during any continuous run of cable.

2

PRE-DRILL THROUGH POSTS

- Drill a 1/4" hole through both the Post and Post Sleeve at stair angle.

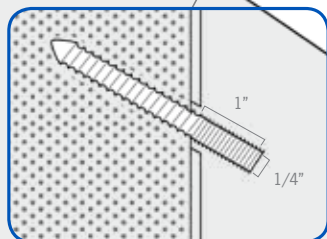


3

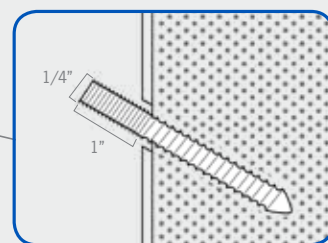
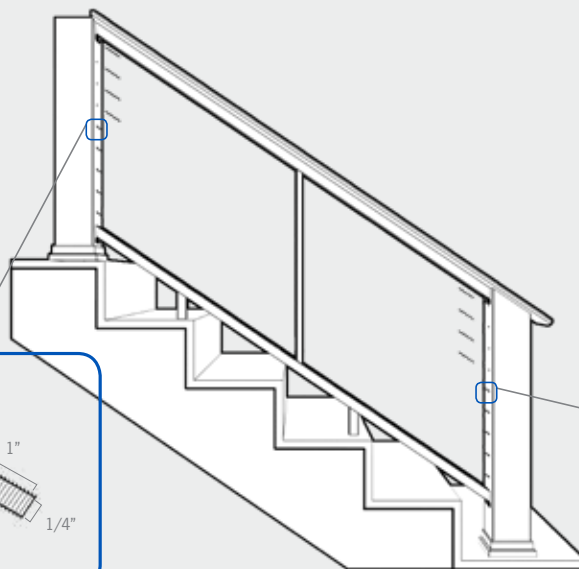
DRIVE IN HANGER BOLTS

- Screw Hanger Bolts into the pilot holes at the same angle of the stairs using the Hanger Bolt Installation Tool.

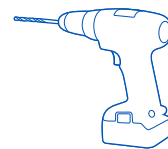
Leave about 1" of machine thread exposed for cable take-up.



Top Anchor Post



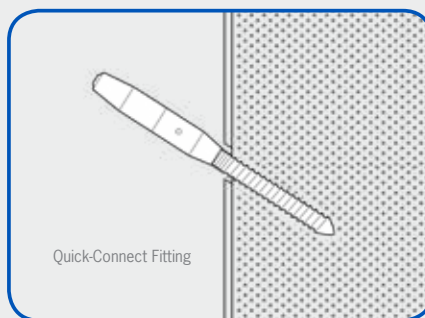
Bottom Anchor Post



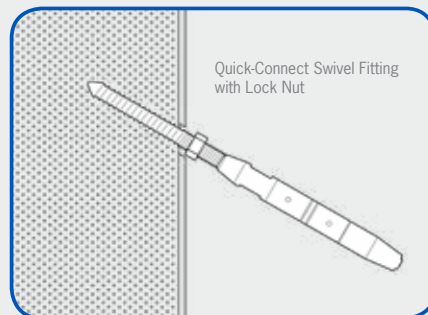
4

ATTACH QUICK CONNECT FITTINGS

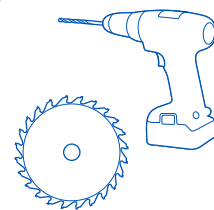
- Place one Quick-Connect fitting at one end and the locknuts and Quick-Connect Swivel fitting on the opposite end.



Quick-Connect Fitting



Quick-Connect Swivel Fitting with Lock Nut

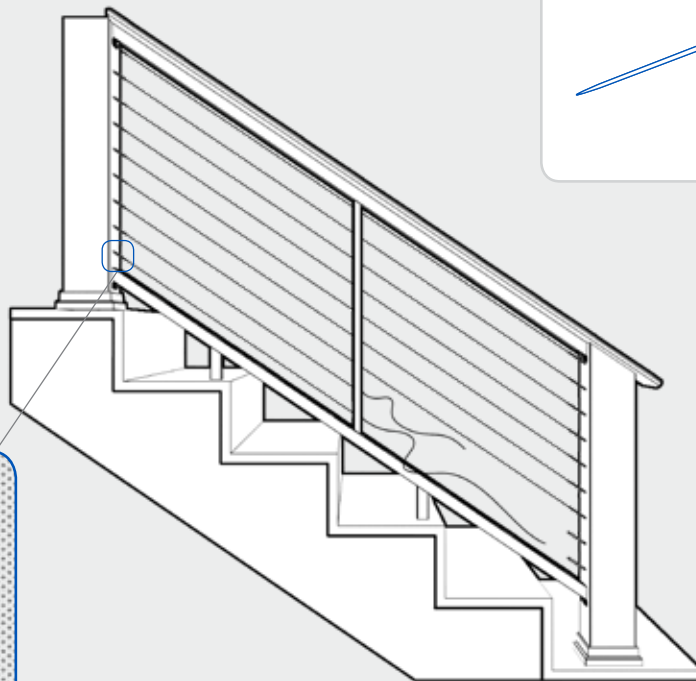
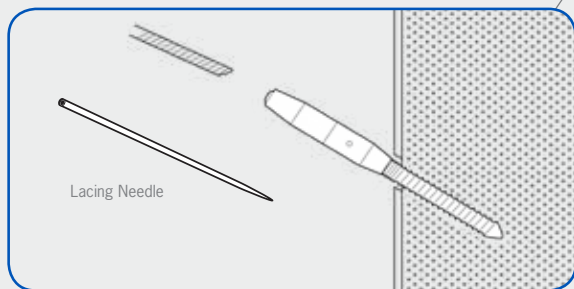


One side of the railing will be only Quick-Connect fittings, the other side will be Quick-Connect swivel fittings and lock nuts.

5

THREAD CABLE

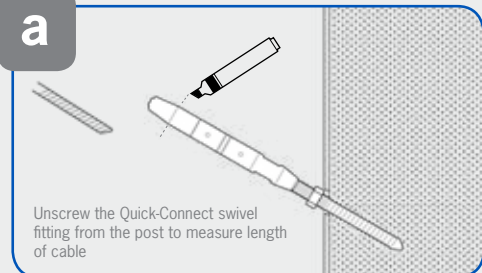
- When all of the hardware is in place, insert one end of the Cable into the Quick-Connect fitting.
- Feed the Cable through the Intermediate Baluster (or through posts) with a lacing needle.



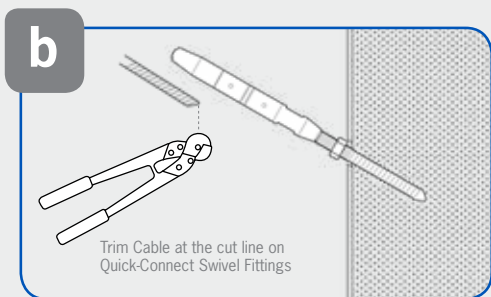
6

CUT CABLE TO LENGTH

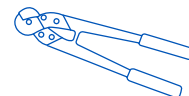
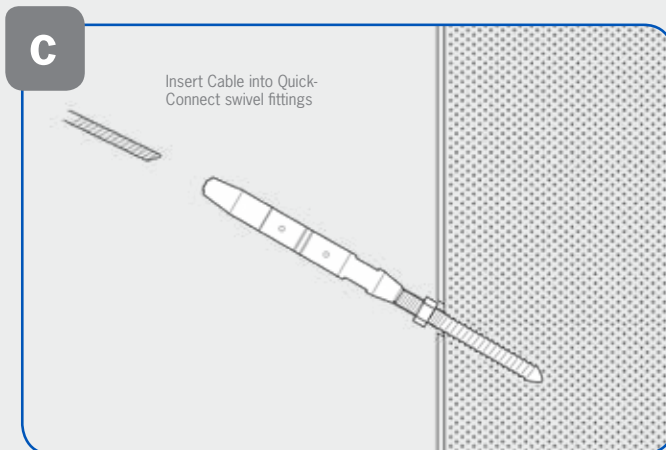
a



b



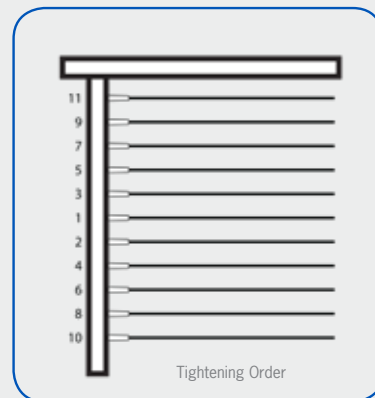
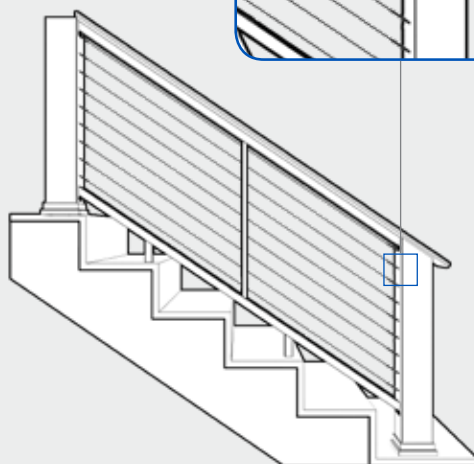
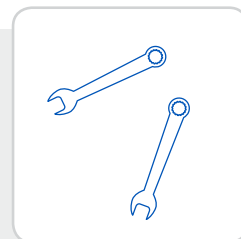
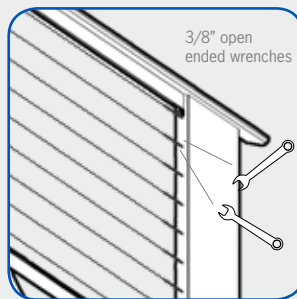
c



7

TIGHTEN CABLE

- Use a set of 3/8" open-ended wrenches to tighten the Cable using the "swivel" end insuring the Cable does not twist.
- Once the Cable is tight, tighten the lock nuts against the Quick-Connect swivel fittings



If necessary, the Cable can be removed from the Quick-Connect fitting by using the Quick-Connect Release Tool

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