

Installing AZEK Evolutions Rail™ Builder

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Important Information

- Please read all instructions completely before starting any part of the installation.
- Evolutions Rail Builder™ 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 Builder may not be suitable for every application and it is the sole responsibility of the installer to be sure that Evolutions Rail Builder 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 Builder 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 Builder 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 Builder'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™ BuilderBoards are available in 6' or 8' lengths.

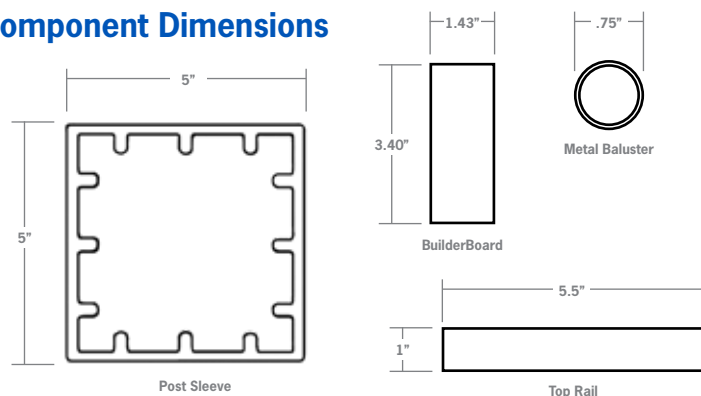
Measuring Your Railing Area

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

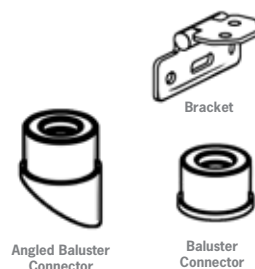
Important Information

- ⚠️ • 6' and 8' BuilderBoard is 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 Builder 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 Builder requires a top rail profile (deck plank) to complete the system for a proper installation and code compliance.

Component Dimensions

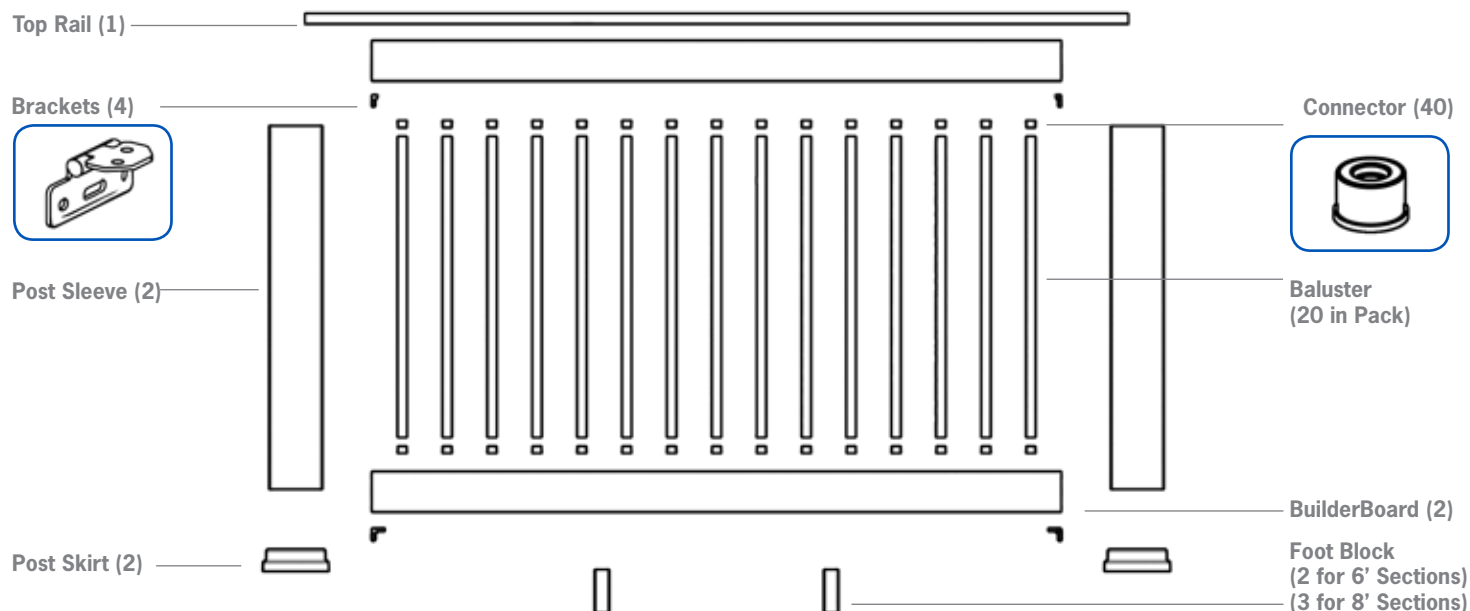


Components Needed For Installing One Builder Style Rail Section		
Components needed to complete rail sections	2 - Post Sleeves 2 - BuilderBoards 2 - Post Skirts 1 - Deck Plank for Top Rail TimberTech TOPLoc Face Fasteners Foot Blocks (2 for 6' Section, 3 for 8' Section) Metal Baluster Pack Hardware Kit End Coating (Optional)	
	Components available separately for mix-and-match rail systems	Metal Baluster Pack: 20 Metal Balusters 36" - 25" Height 42" - 31" Height 36" Stair - 23.75" Height 42" Stair - 29.75" Height Baluster Connector Packs: 40 - Baluster Connectors 40 - #10 x 2" Screws
Hardware needed to complete 6' and 8' rail sections	Hardware Mounting Kit: 4 - Hinged Brackets 11 - #10 x 2" Screws 8 - #10 x 7/8" Screws 4 - #10 x 1.5" Screws 1 - T-25	



Tools Required

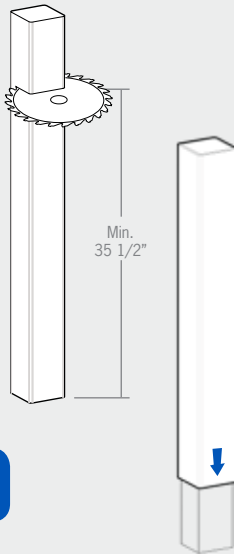
- Miter Saw
- Drill
- Drill Bits: 9/64", 3/16", & 1/2"
- Tape Measure



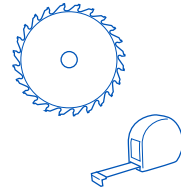
1

CUT POSTS AND TEMPORARILY INSTALL POST SLEEVES

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



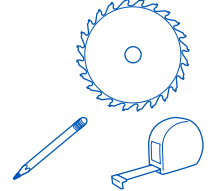
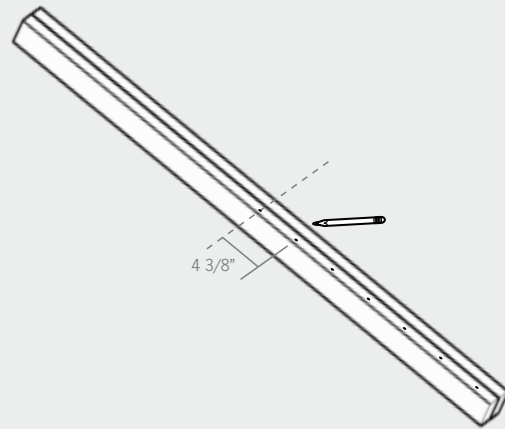
⚠ Do not cut Post Sleeves in this step.



2

MARK BALUSTER LOCATIONS

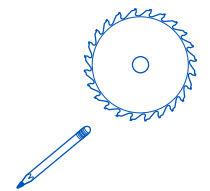
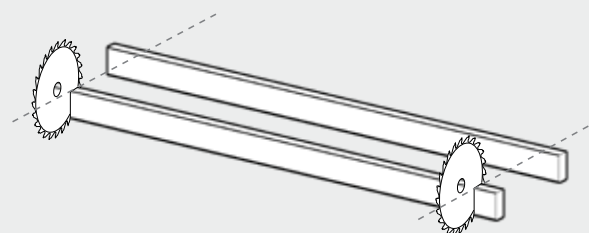
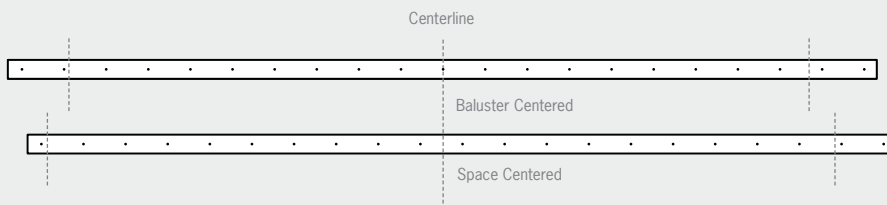
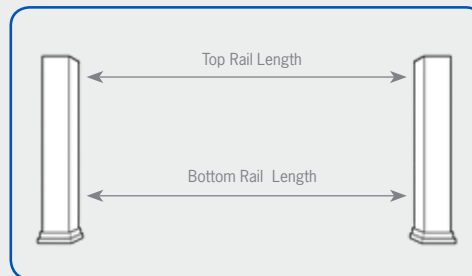
- Using provided template, mark Baluster locations on one BuilderBoard, then transfer to the other.



3

MEASURE AND TRIM BUILDERBOARDS

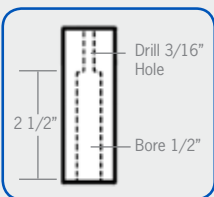
- Measure between Posts.
- Determine if a space or Baluster will be on center.
- Cut BuilderBoards to length.



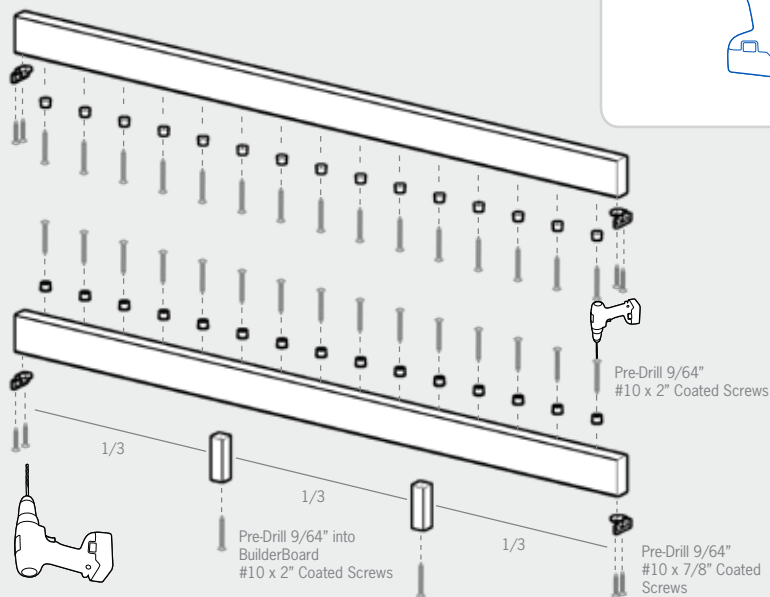
4

ATTACH BALUSTER CONNECTORS, HINGE BRACKETS, AND FOOT BLOCKS

- Pre-Drill 9/64" holes at Baluster marks roughly 2" deep.
- All fastener locations, including the baluster plugs, foot blocks, and mounting brackets must be pre-drilled, or splitting will occur.



Foot Block Preparation



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.

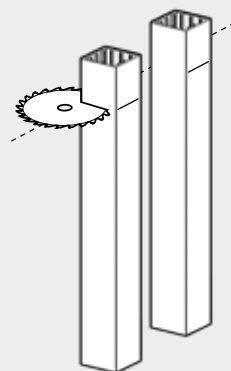
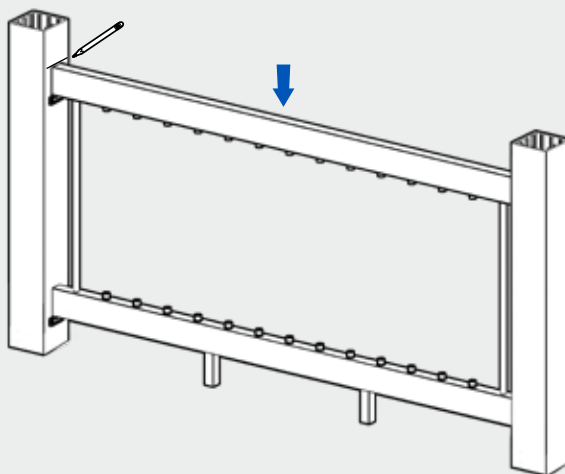
5

MEASURE AND TRIM POST SLEEVES

- Temporarily set bottom BuilderBoard in place and install a Baluster on each end. Place top BuilderBoard on top of the Balusters.
- Mark the top of the top BuilderBoard on the Post Sleeves.

Post Sleeves should be flush with the Top BuilderBoard.

- Slide Post Sleeves off Posts and cut to appropriate length.



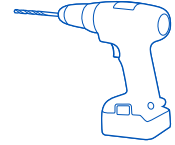
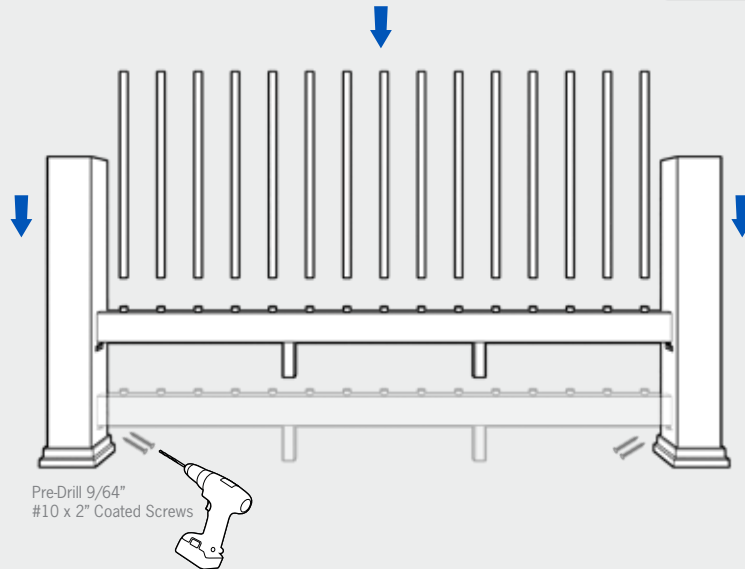
6

INSTALL BOTTOM RAIL AND BALUSTERS

- Replace Post Sleeves and Skirts.
- Install Bottom BuilderBoard by Pre-Drilling through Brackets with 9/64" bit and screwing them to Posts.

Screws are designed to go in at a slight angle.

- Place all Balusters on Baluster Connectors.



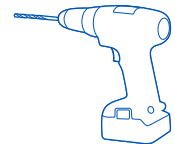
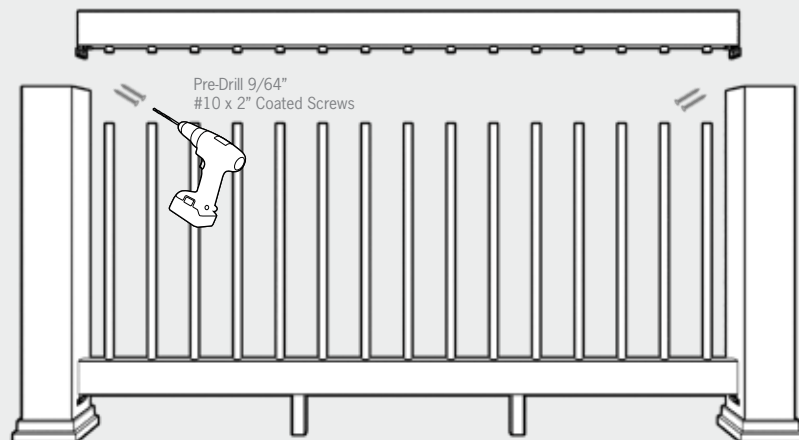
7

INSTALL TOP BUILDERBOARD

- Place Top BuilderBoard on Balusters.

Start at one end with the top rail angled upward. Work your way down the rail by aligning and lowering the top rail onto each Baluster.

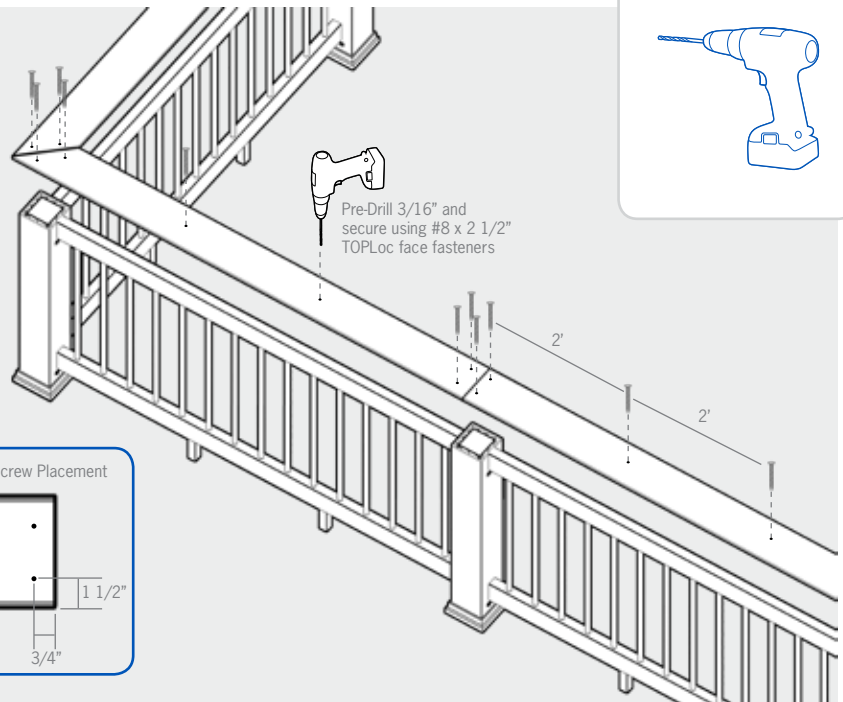
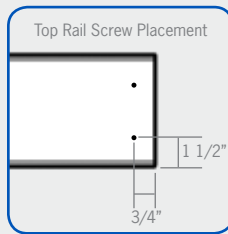
- Make sure Balusters are all snugly seated on Baluster Connectors, then Pre-Drill and secure Top BuilderBoard with Brackets.



8

INSTALL TOP RAILS

- Cut Planking 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.

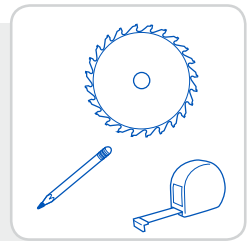
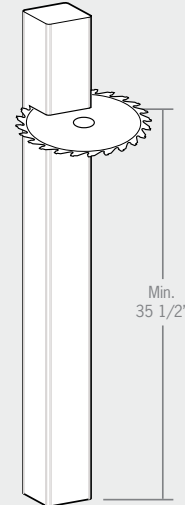
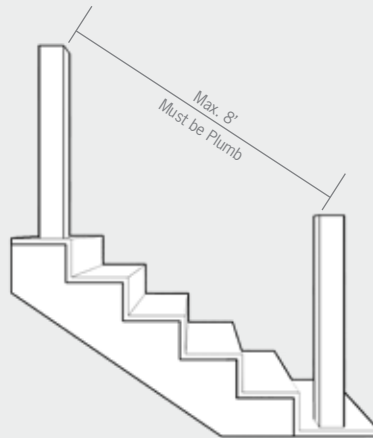


If your rail has stair sections, start installing the cap at the stairs. Wait until all rail sections are complete before beginning Top Rail installation.

1

CUT POSTS AND TEMPORARILY INSTALL POST SLEEVES

- 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.

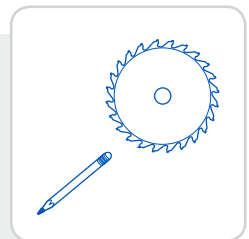
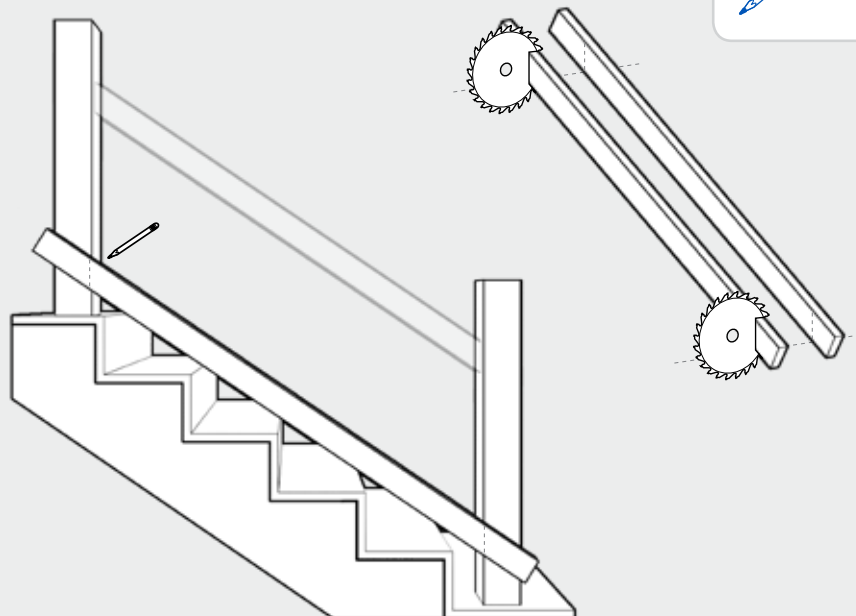


Do not cut Post Sleeves in this step.

2

MEASURE AND TRIM BUILDERBOARDS

- Position a BuilderBoard on the stairs against the Top and Bottom Post Sleeves.
- Mark the length and angle at each post.
- Trim the ends of the BuilderBoard. Check the fit at Top and Bottom Rail locations, then trim a duplicate BuilderBoard for the Top Rail.



3

DETERMINE METAL BALUSTER LOCATIONS

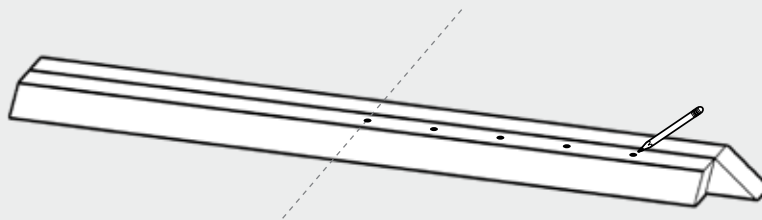
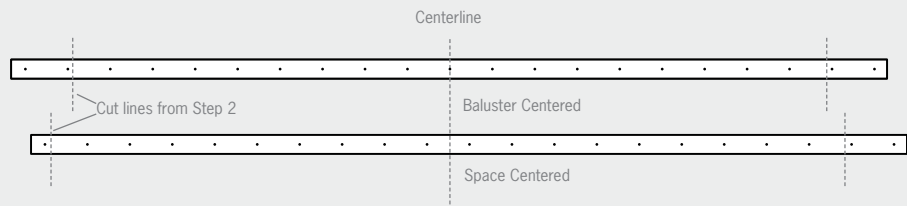
- Lay trimmed BuilderBoards side by side oriented as shown.

Clamping boards together will make transferring locations much easier.

- Determine if a space or Baluster should be on center.
- Using template provided, mark the Baluster positions on the BuilderBoard Rail.

Stair metal Balusters should be spaced at 5.5".

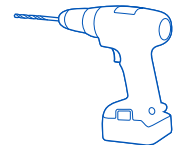
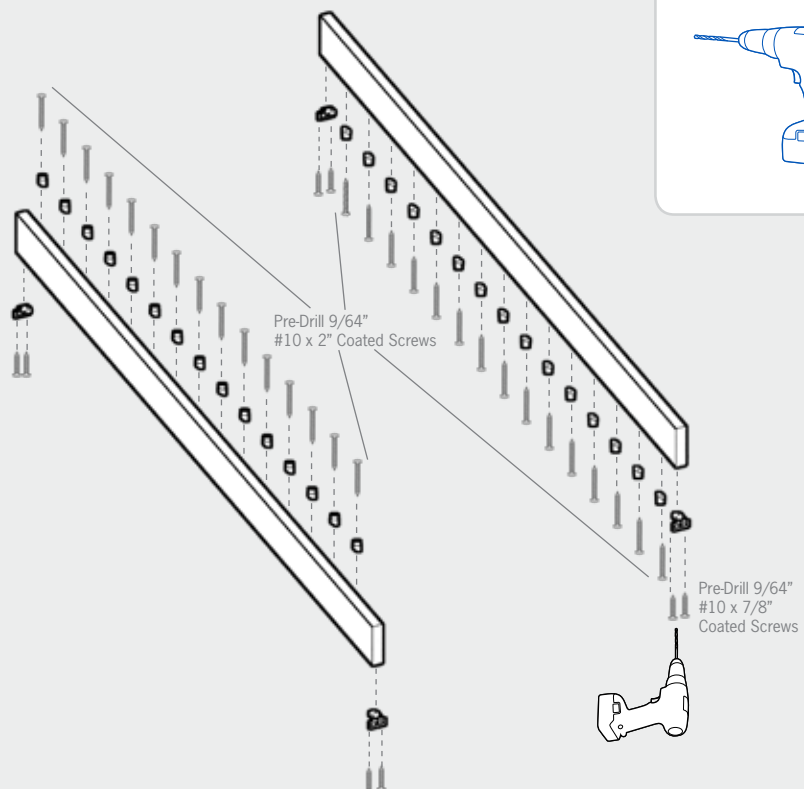
- Transfer Baluster marks to second BuilderBoard.



4

ATTACH BALUSTER CONNECTORS AND HINGE BRACKETS

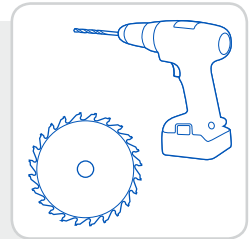
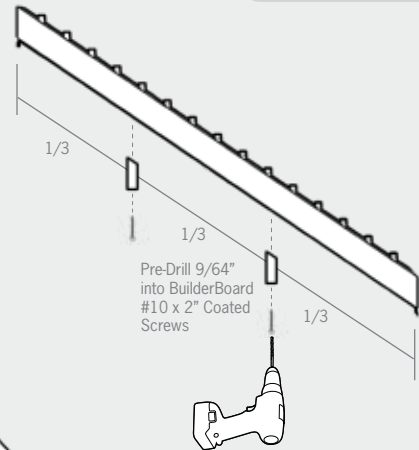
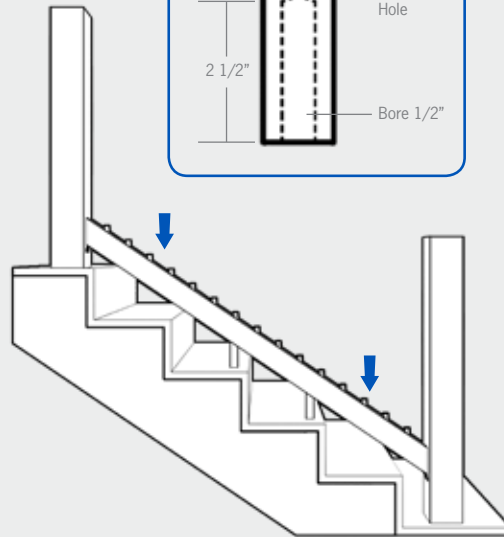
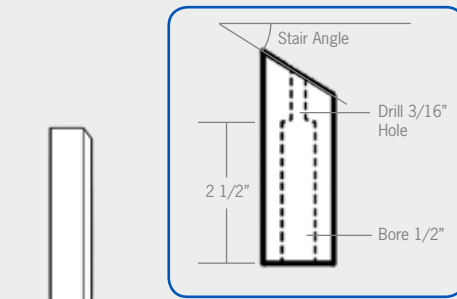
- Pre-Drill holes roughly 2" deep for angled Baluster Connectors using a 9/64" bit and either a Baluster Connector or piece of scrap cut to the stair angle as a drill guide.
- Attach Baluster Connectors.
- Pre-Drill holes for Brackets using them as guides with a 9/64" bit.
- Attach Brackets.



5

INSTALL FOOT BLOCKS

- Temporarily install Bottom BuilderBoard.
- Prepare Foot Blocks as shown in detail, then place into position under Bottom BuilderBoard, marking their positions.
- Remove BuilderBoard, Pre-Drill using 9/64" bit, and attach Foot Blocks.



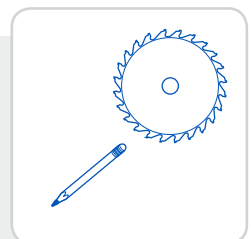
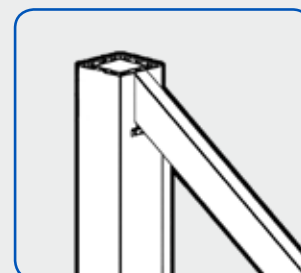
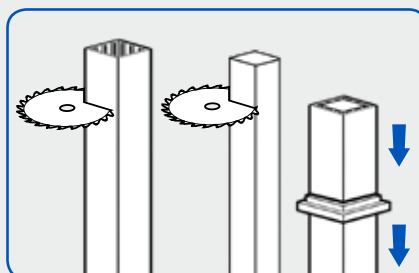
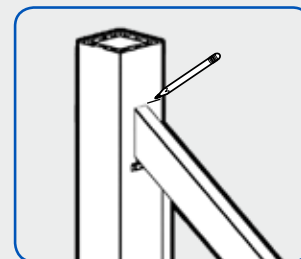
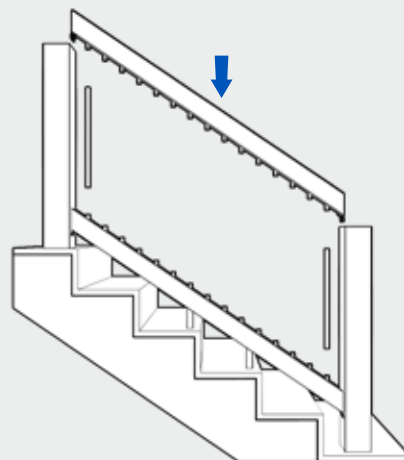
For sections up to 6': Place one Foot Block in the center of the rail

For sections 6' to 8': Space two Foot Blocks approximately at 1/3 intervals on the rail

6

MEASURE AND TRIM TOP POST AND TOP POST SLEEVE

- Temporarily place Bottom BuilderBoard in position and install a Baluster on each end. Place the Top BuilderBoard on the Balusters.
- Mark the top of the Top BuilderBoard.
- Remove Post Sleeve and trim to length, then Trim Post to same length.
- Replace Post Sleeve and slide on Post Skirt.

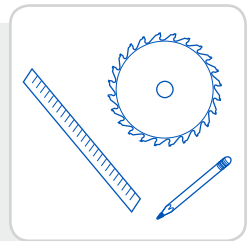
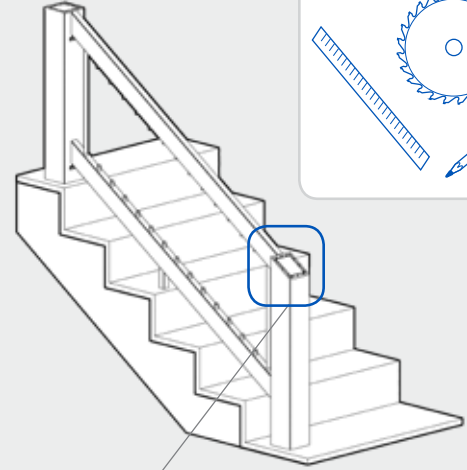
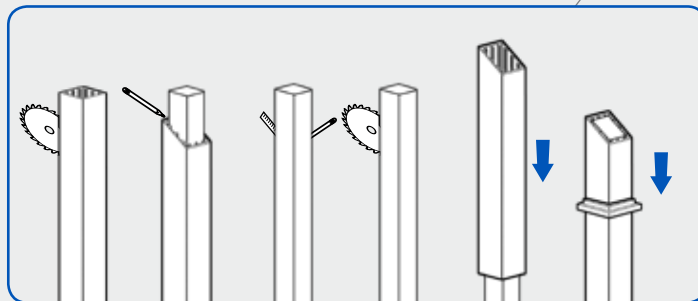
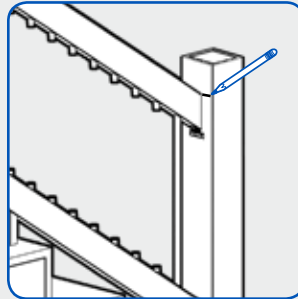


Post Sleeves should be flush with Top BuilderBoard.

7

MEASURE AND TRIM BOTTOM POST AND POST SLEEVE

- Mark where Top BuilderBoard 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.



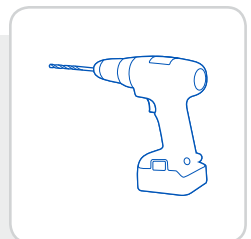
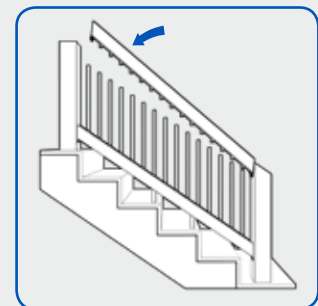
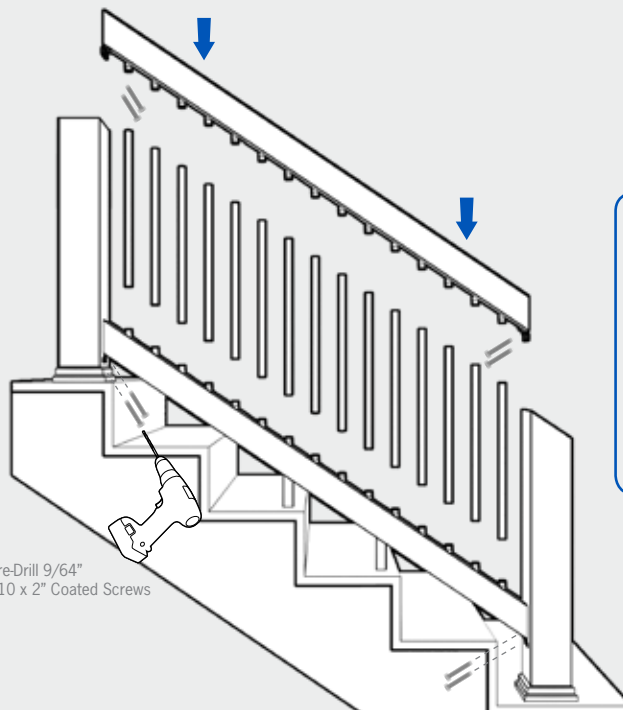
8

INSTALL BOTTOM RAIL, BALUSTERS, AND TOP RAIL

- Move Bottom BuilderBoard into place and secure. Pre-Drill through Brackets with 9/64" bit.
- Place Balusters onto Baluster Connectors.

For ease of connecting Balusters, attach only 1 end of Top BuilderBoard and rotate down, fitting one Baluster at a time.

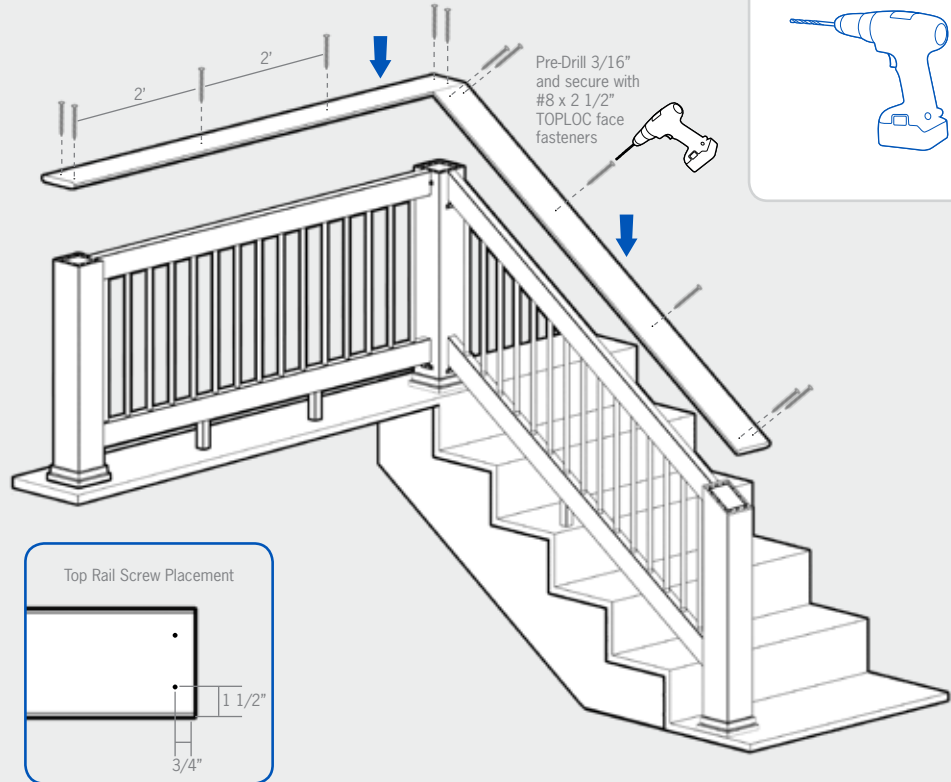
Pre-Drill 9/64"
#10 x 2" Coated Screws



9

INSTALL TOP RAIL

- Finish railing system by applying a TimberTech Square Shouldered profile to the top of the rail assembly.
- Pre-Drill 9/64" and secure planks at posts.
- All fastener locations must be pre-drilled with a 3/16" drill bit, or mushrooming or splitting will occur.



Evolutions Rail™ Builder Boards are available in 6' only for Glass Infill

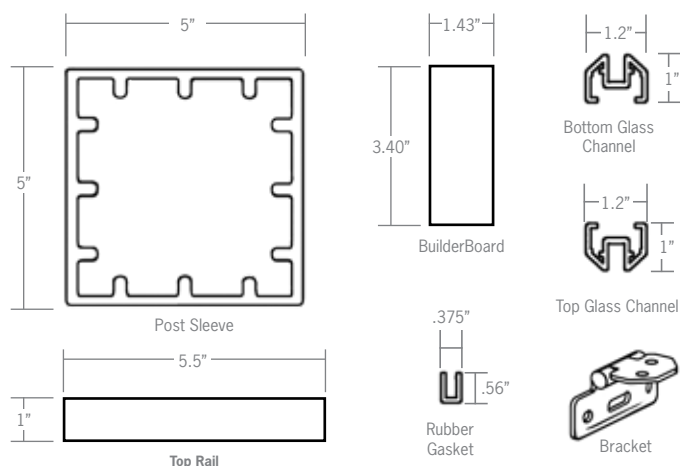
Measuring Your Railing Area

- Measurements are from center of post. BuilderBoard is produced in 6' lengths to allow for finished end cuts and angles.
- Determine how many 6' BuilderBoards you need and check to be sure you have all the components (and quantities) listed in the chart shown to the right.

Important Information

- ⚠ Glass is not provided and should be secured locally.
- 6' BuilderBoard is designed not to exceed 6' 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.

Component Dimensions



Components Needed For Installing One Builder Style Rail Section

Components Needed to Complete Rail Sections

2 - BuilderBoards
1 - Deck Plank for Top Rail
Timbertech TOPLoc Face Fasteners
2 - Foot Blocks
Hardware Kit

Additional Components Needed for Each System

⚠ 1/4 Tempered Glass must be sourced locally (See attached reference sheet).
2 - Post Sleeves
2 - Post Skirts
Glass Channels
End Coating- Optional

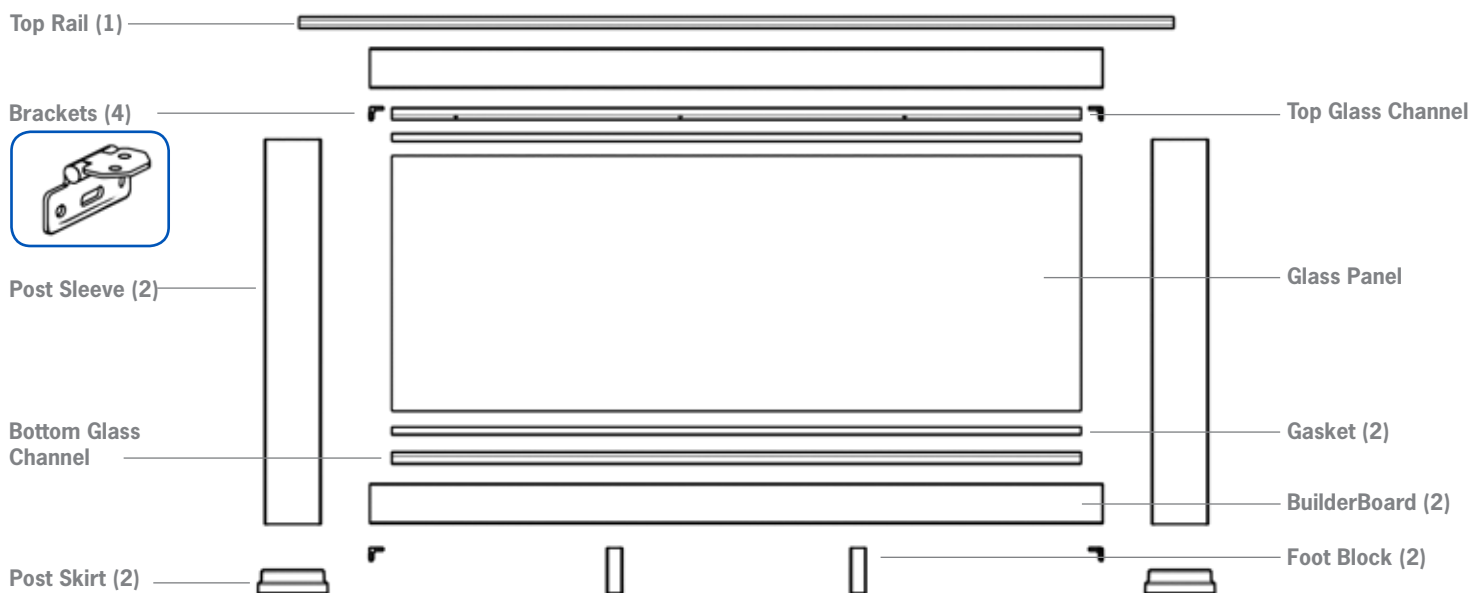
Hardware Needed to Complete 6' Rail Sections

Hardware Mounting Kit:

4 - Hinged Brackets
11 - #10 x 2" Screws
8 - #10 x 7/8" Screws
4 - #10 x 1.5" Screws
1 - Torx Driver Bit

Tools Required

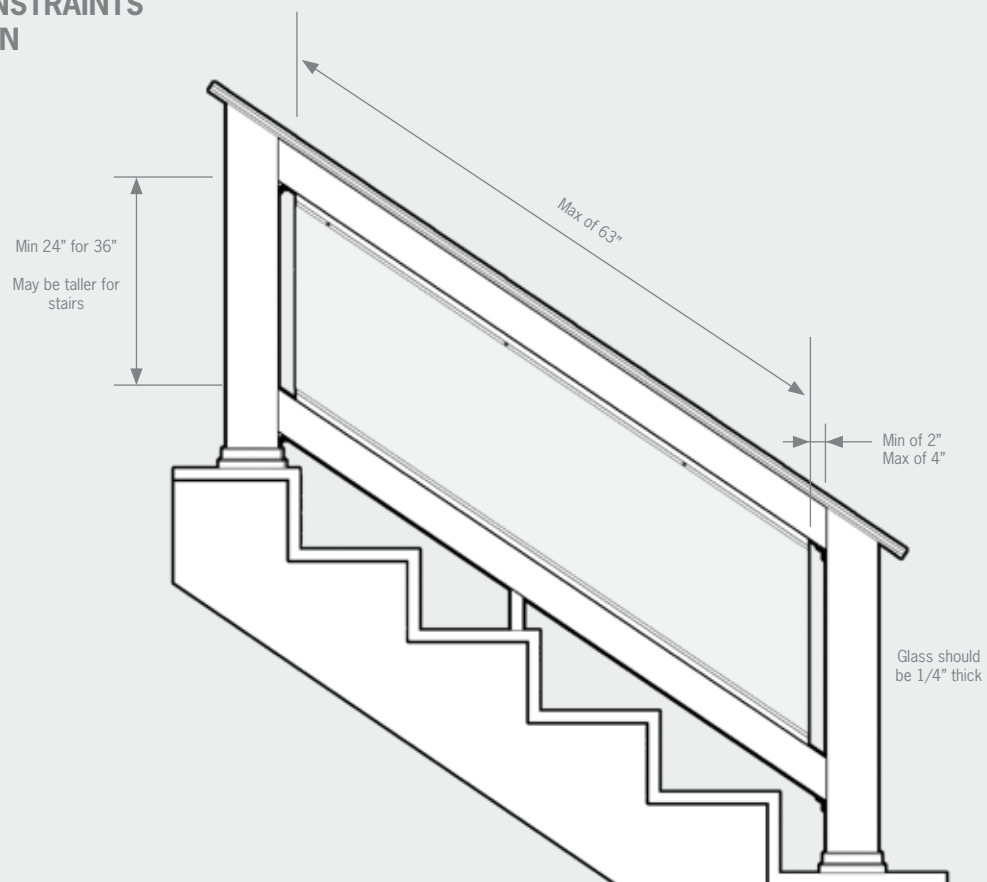
- Miter Saw
- Drill
- Drill Bits: 7/64" 9/64", 3/16", & 1/2"
- Tape Measure



DIMENSIONAL CONSTRAINTS FOR STRAIGHT SECTION



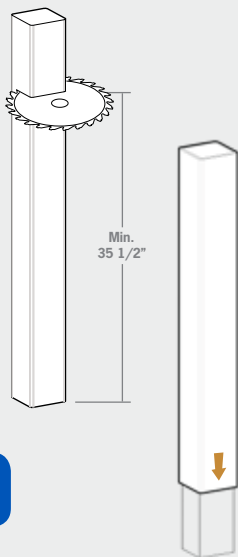
DIMENSIONAL CONSTRAINTS FOR STAIR SECTION



1

CUT POSTS AND TEMPORARILY INSTALL POST SLEEVES

- Posts must be positioned no more than 6' on center, and must be plumb.
- Trim 4x4 Post to a min of 35 1/2" (for 36") and 41 1/4" (for 42) above finished deck surface.
- Slide uncut Post Sleeves over 4x4 posts (do not force).



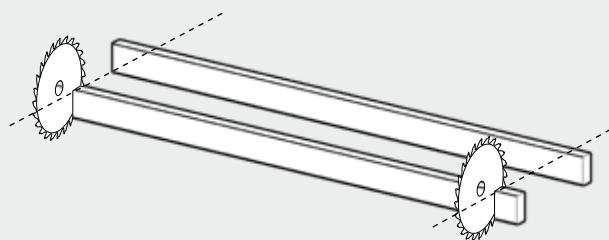
Do not cut Post Sleeves in this step.

2

MEASURE AND CUT BUILDERBOARDS

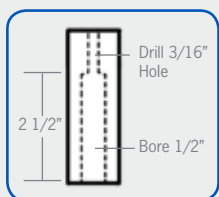
- Measure between posts. Cut BuilderBoards.

For best results, cut both ends of BuilderBoards.

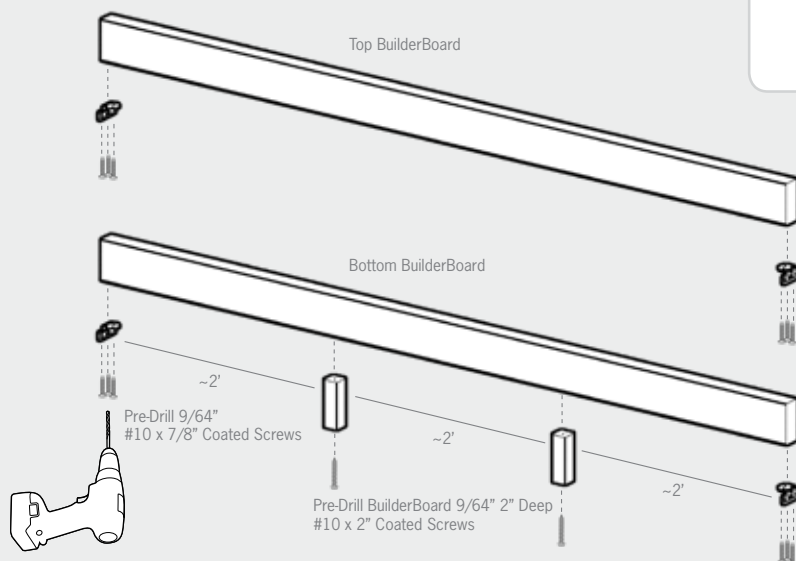


3

ATTACH HINGE BRACKETS AND FOOT BLOCKS TO BOTTOM BUILDERBOARD



Foot Block Preparation

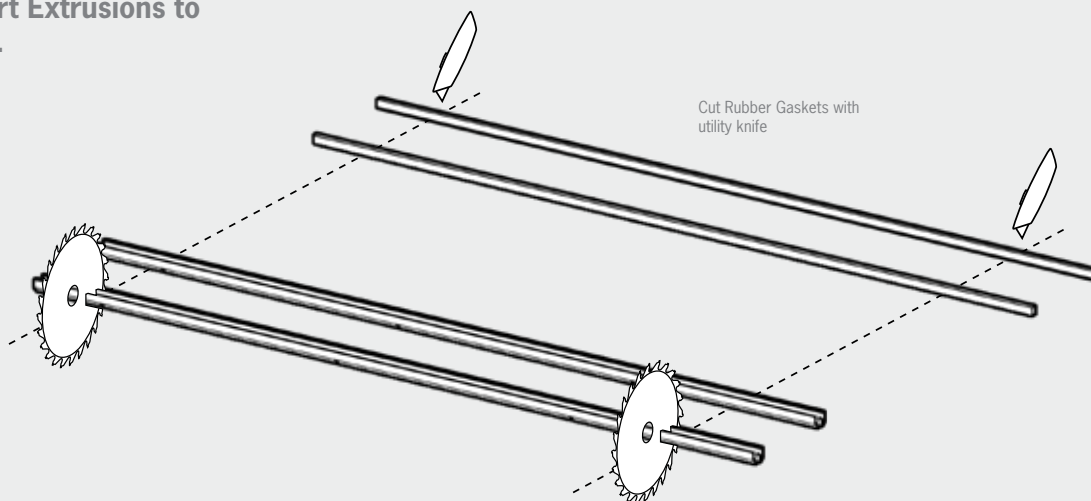
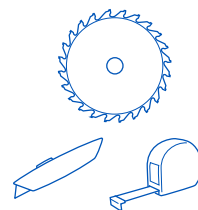


Place two Foot Blocks approximately at 2' intervals on the rail

4

TRIM GASKETS AND GLASS CHANNELS

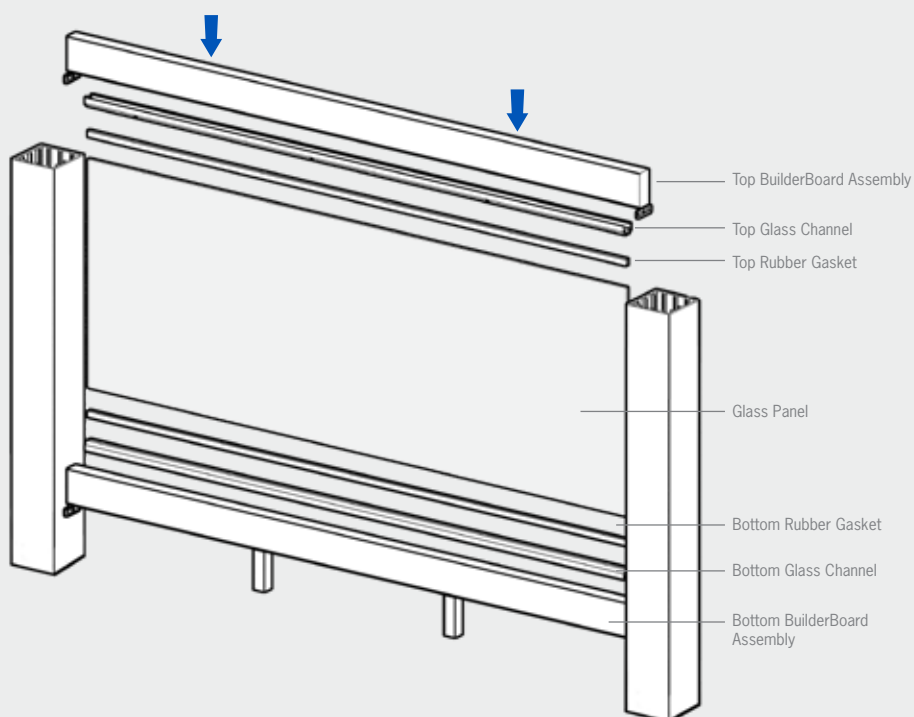
- Using BuilderBoard length as reference, cut Gaskets and Glass Support Extrusions to length.



5

TEMPORARILY ASSEMBLE INFILL

- To find height of Post Sleeve cuts, temporarily fit together infill as shown. Do NOT screw anything together.



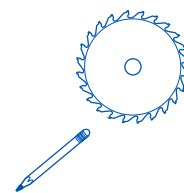
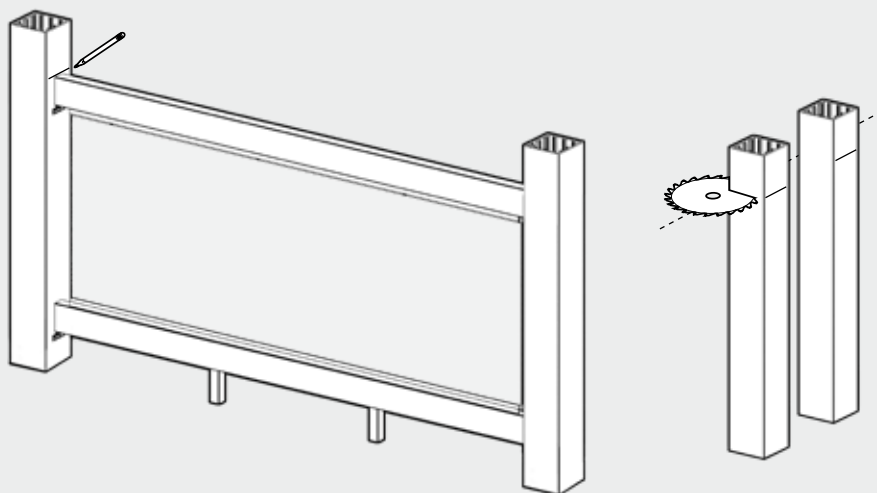
6

MARK AND CUT POST SLEEVES

- Mark the top of the Top BuilderBoard on the Post Sleeves.

Post Sleeves should be flush with the Top BuilderBoard.

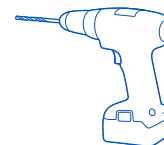
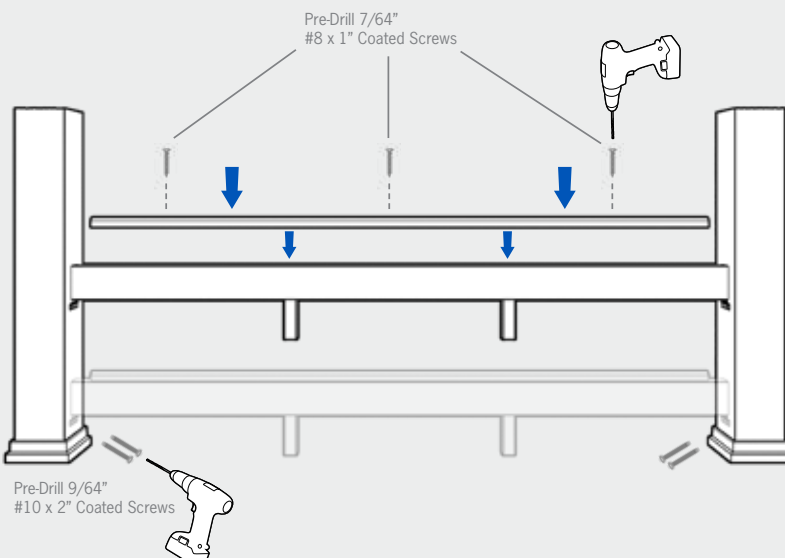
- Slide Post Sleeves off posts and cut to appropriate length.



7

INSTALL BOTTOM BUILDERBOARD AND BOTTOM GLASS CHANNEL

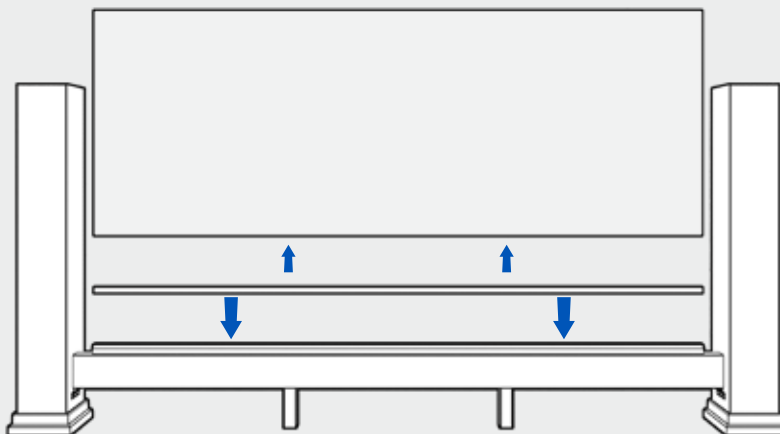
- Replace Post Sleeves and Skirts.
- Install Bottom BuilderBoard by Pre-Drilling through Brackets with 9/64" bit and attaching with provided screws.
- Install Bottom Glass Channel. Pre-Drill through existing holes and attach with screws.



8

INSTALL GASKET AND GLASS PANEL

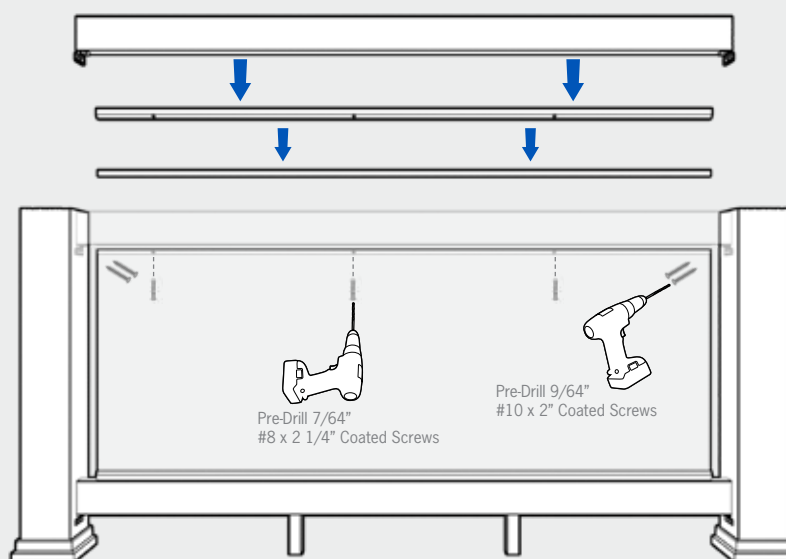
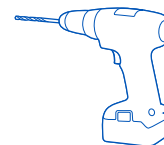
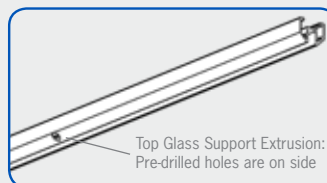
- Fit Bottom Gasket onto bottom of glass panel and fit assembly into channel in Bottom Glass Channel.



9

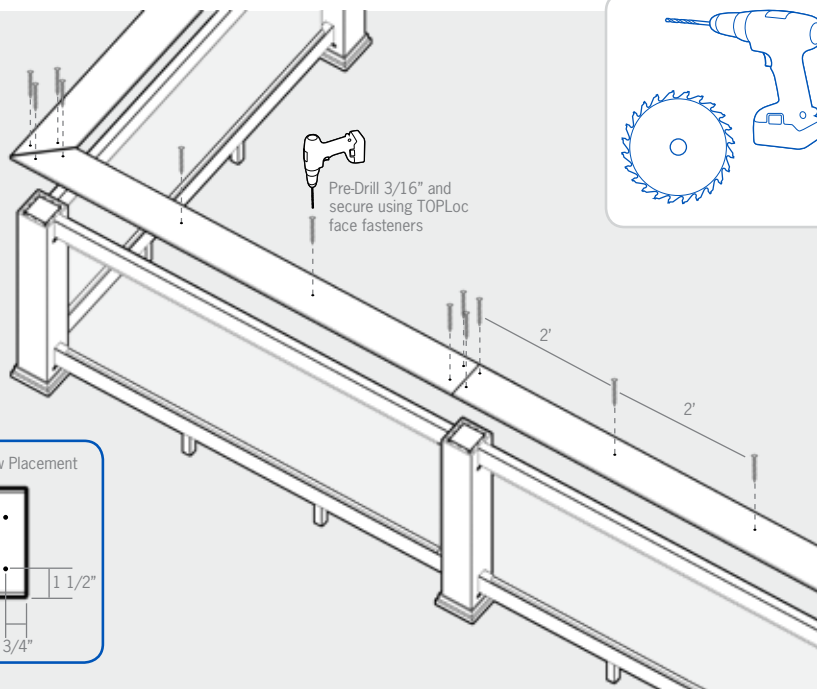
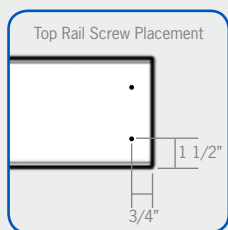
INSTALL TOP GASKET, TOP GLASS CHANNEL, AND TOP BUILDERBOARD

- Fit Gasket onto top of glass panel, followed by the Top Glass Channel.
- Place Top BuilderBoard over glass panel assembly and secure.
- Secure



10 INSTALL TOP RAIL

- Cut Planking 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 will occur.

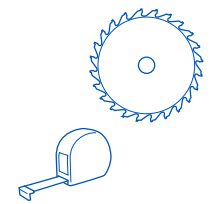
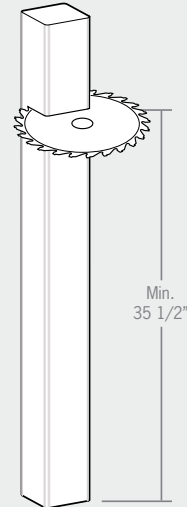
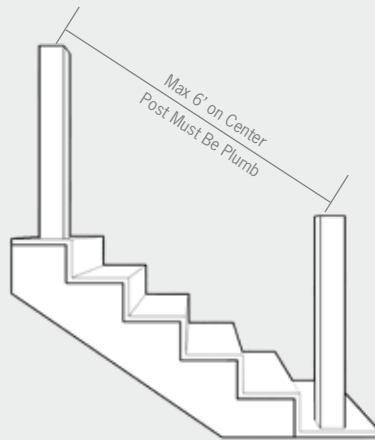


If your rail has stair sections, start installing the cap at the stairs. Wait until all rail sections are complete before beginning Top Rail installation.

1

CUT POSTS AND TEMPORARILY INSTALL POST SLEEVES

- 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).
- Post may need to be slightly taller for stairs.

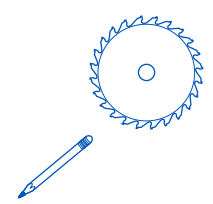
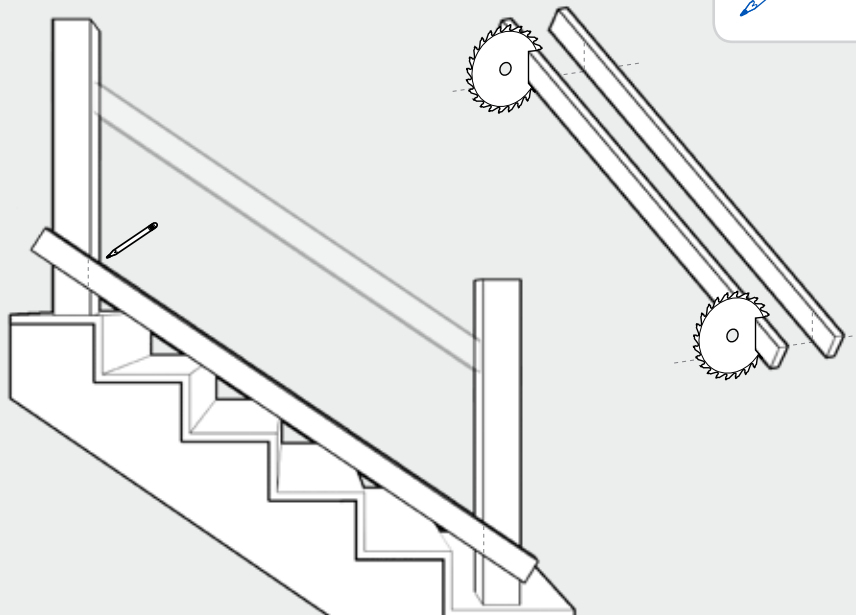


 Do not cut Post Sleeves in this step.

2

MEASURE AND TRIM BUILDERBOARDS

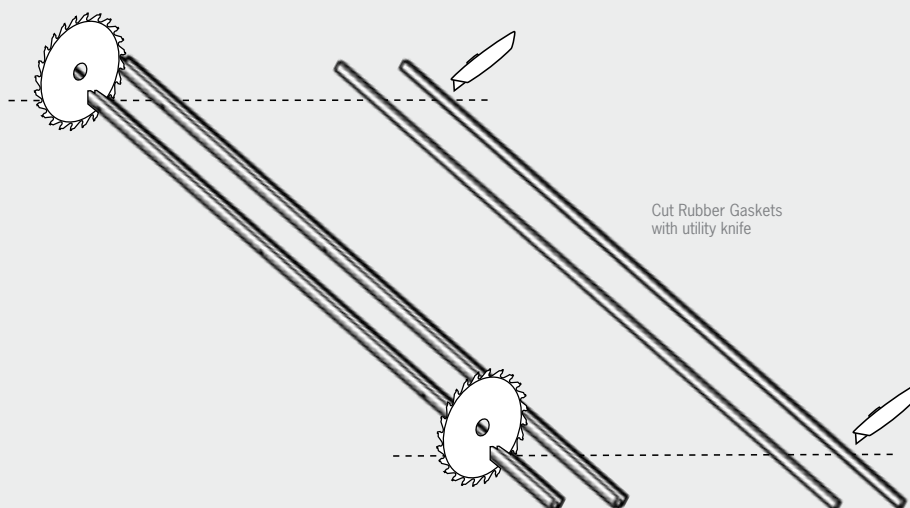
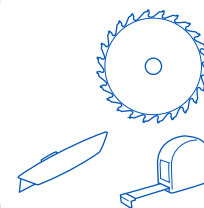
- Position a BuilderBoard on the stairs against the Top and Bottom Post Sleeves.
- Mark the length and angle at each post.
- Trim the ends of the BuilderBoard. Check the fit at Top and Bottom Rail locations, then trim a duplicate BuilderBoard for the Top Rail.



3

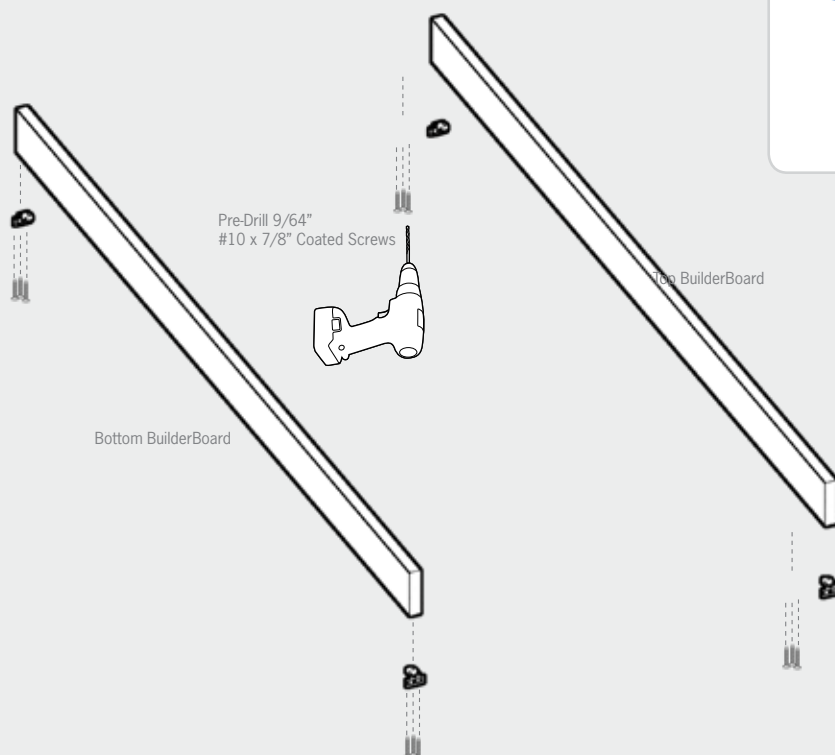
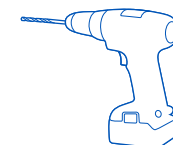
TRIM GASKETS AND CLASS CHANNELS

- Using BuilderBoard lengths for reference, determine length for Glass Channels and Gaskets, then cut to length at stair angle.



4

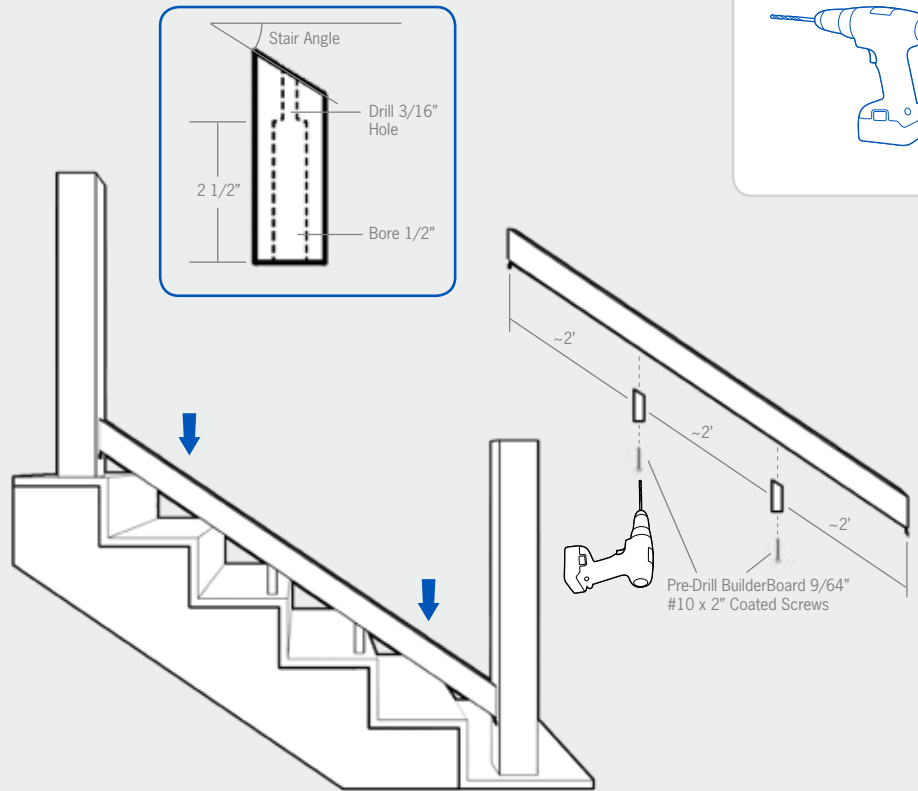
ATTACH HINGE BRACKETS TO BUILDERBOARDS



5

INSTALL FOOT BLOCKS

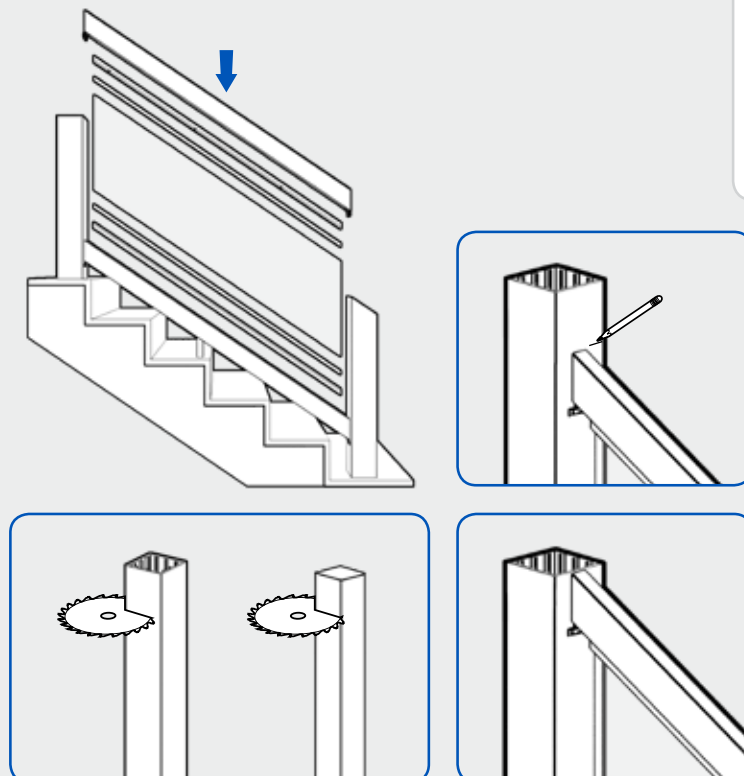
- Temporarily install Bottom BuilderBoard.
- Place Foot Blocks in position under Bottom BuilderBoard, marking their locations.
- Remove BuilderBoard, Pre-Drill using 9/64" bit, and cut and attach Foot Blocks.



6

MEASURE AND TRIM TOP POST AND TOP POST SLEEVE

- Temporarily install infill from bottom up: Bottom BuilderBoard assembly, Bottom Glass Channel, Gasket, glass panel, Gasket, Top Glass Channel, Top BuilderBoard assembly.
- Mark the top of the Top BuilderBoard.
- Remove Post Sleeve and trim to length, then Trim Post to same length and replace Post Sleeve.

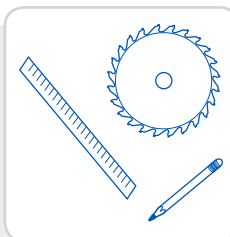
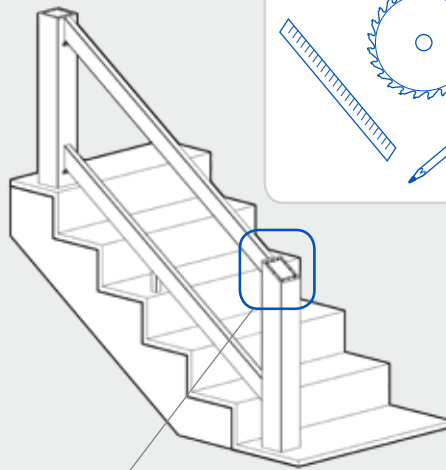
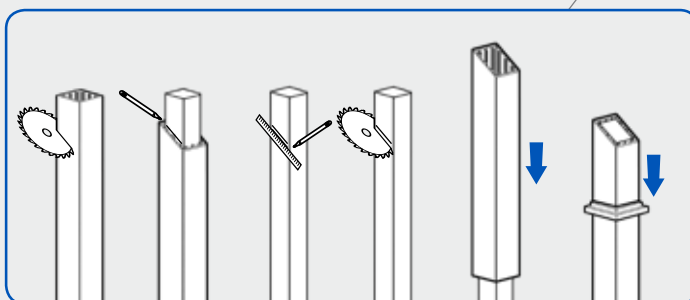
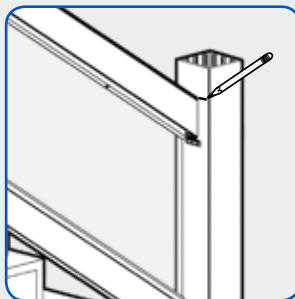


Post Sleeves should be flush with top BuilderBoard.

7

MEASURE AND TRIM BOTTOM POST AND POST SLEEVE

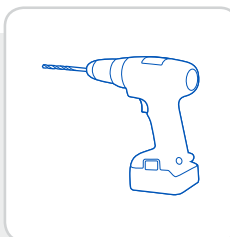
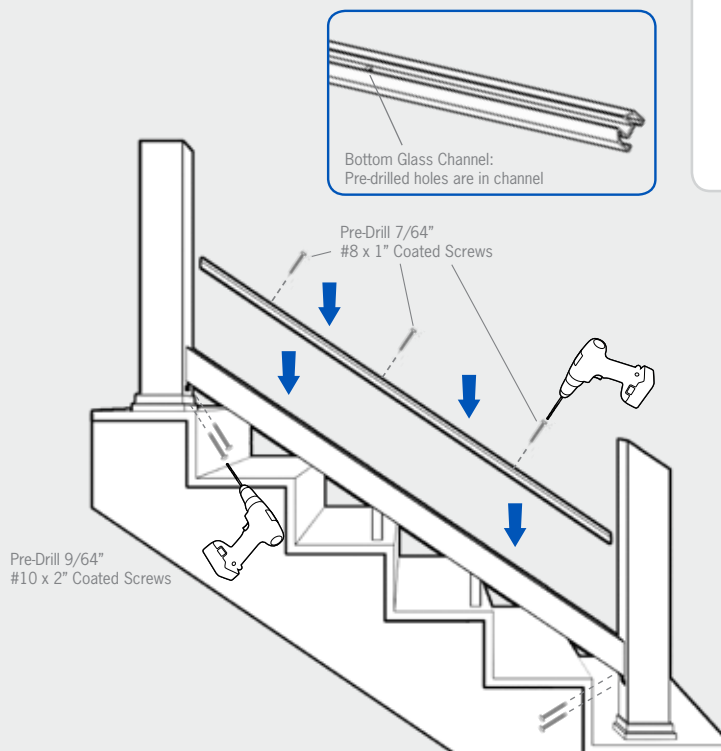
- Mark where Top BuilderBoard meets Bottom Post Sleeve.
- Remove Post Sleeve and trim to stair angle. Replace Post Sleeve.
- Use Post Sleeve to mark the angle of cut on Post. Remove Post Sleeve.
- Using a straight edge, draw a line roughly 1/8" below previous mark on Post.
- Trim Post at lower line.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



8

INSTALL BOTTOM RAIL AND BOTTOM GLASS CHANNEL

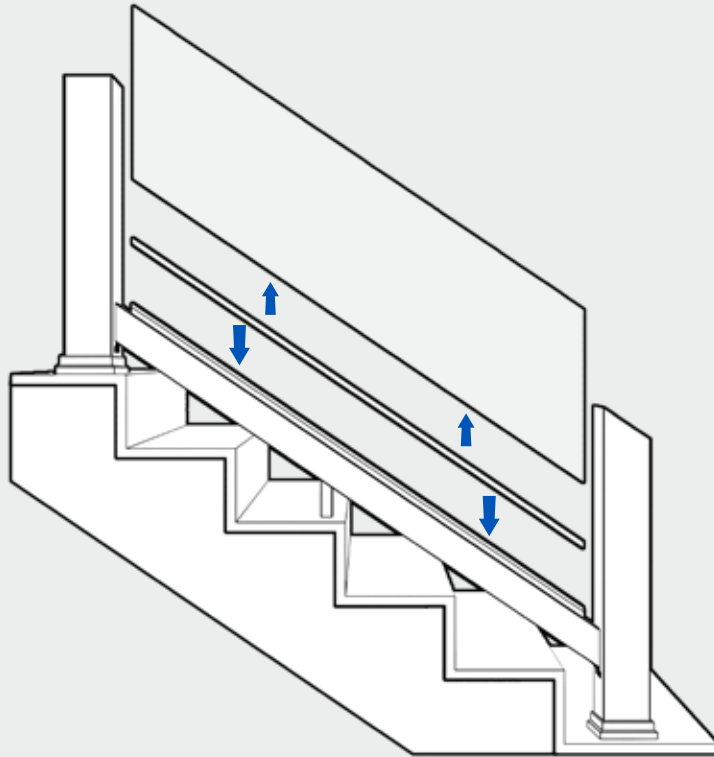
- Move Bottom BuilderBoard and Bottom Glass Channel into place and secure.



9

INSTALL GASKET AND GLASS PANEL

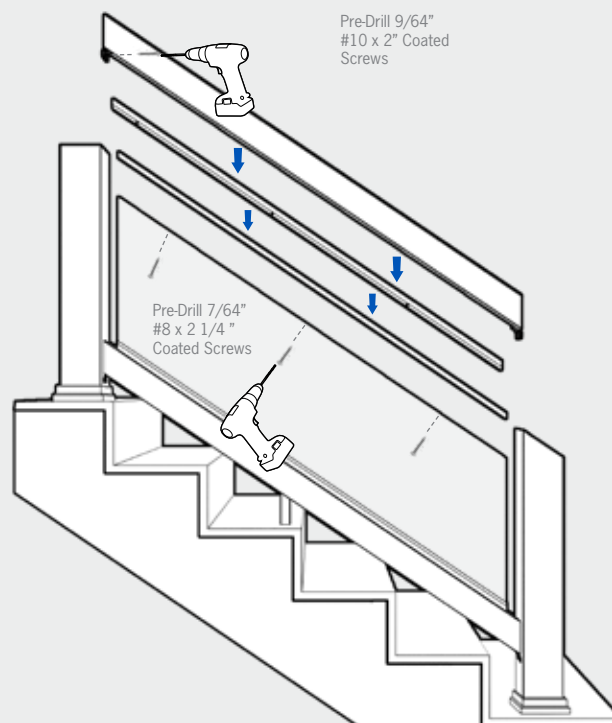
- Fit Bottom Gasket onto bottom of glass panel and fit assembly into channel in Bottom Glass Channel.



10

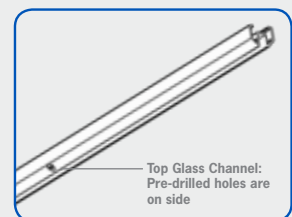
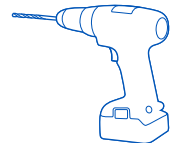
INSTALL TOP RAIL AND TOP GLASS CHANNEL

- Fit Gasket onto top of glass panel, followed by the Top Glass Channel.
- Place Top BuilderBoard over glass panel assembly and secure.



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

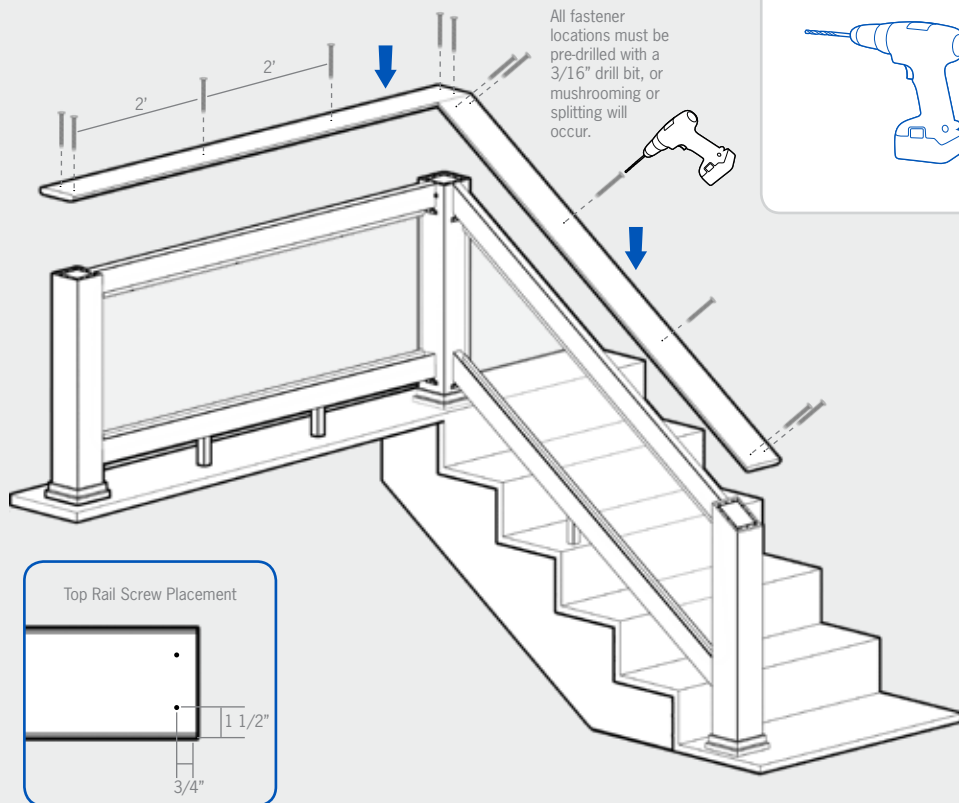
Pre-Drill 7/64"
#8 x 2 1/4" Coated
Screws



11

INSTALL TOP RAIL

- Finish railing system by applying a TimberTech Square Shouldered profile to the top of the rail assembly.
- Pre-Drill 3/16" and secure planks at posts.



This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

The AZEK Company
1330 W. Fulton Street, Suite 350
Chicago, IL 60607
AZEK.com | TimberTech.com