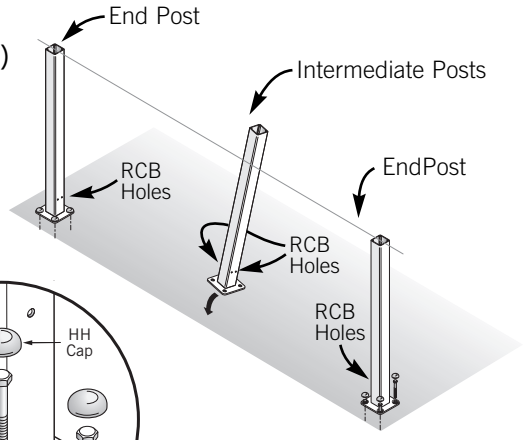
Glass Infill Systems

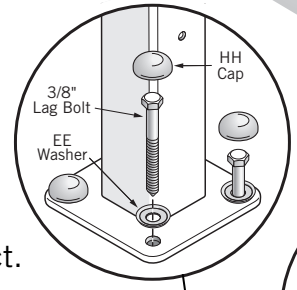
1) Check Contents Of Packages: Verify that all parts have arrived and that they match the packing list.

2) Gather and Identify All Posts: Use the rail connecting bracket (RCB) holes on each post to identify the post type:

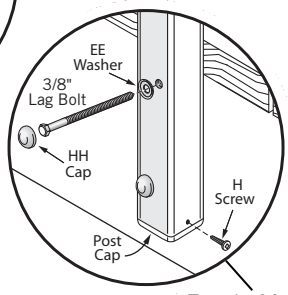
- End posts – RCB holes on one side only.
- Intermediate posts – RCB holes on opposite sides.
- Single corner posts – RCB holes on adjacent sides.



3) Anchor Posts: Position and fasten all posts. The sides of the posts with RCB holes should be facing the adjacent post(s). Be sure that the posts are plumb, in-line with one another, and spaced a **maximum** of 5 feet apart. The proper penetration for your lag bolts is critical and will vary depending on your installation. See drawing at the end of this document for details on lag bolt lengths for your project. Expansion anchors can be supplied for concrete base.



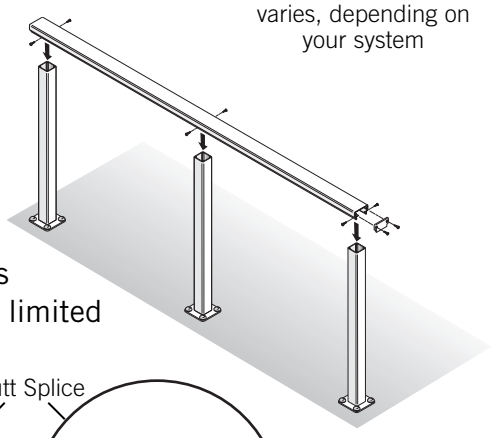
Base Mounting



Fascia Mounting
bolt number & pattern varies, depending on your system

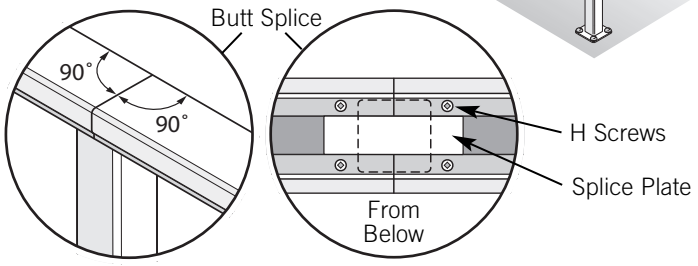
- Base mounting: anchor each post using provided hardware (see detailed sheet included in your order) with retaining washers and large plastic caps.
- Fascia mounting: anchor each post using provided hardware with retaining washers and large plastic caps. Cover bottom of each post with an post cap; pre-drill post & screw an H screw through the side of the post to secure the post cap.

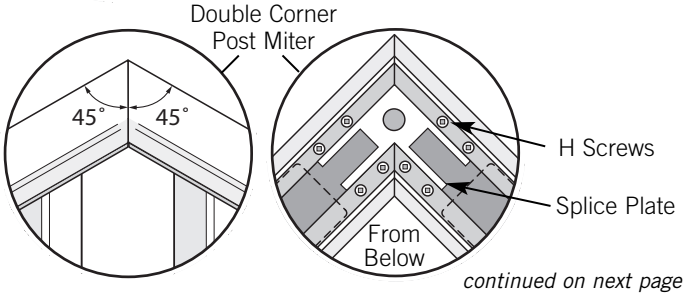
If you are mounting posts using the stanchion mount or fascia bracket mount methods, please call for additional installation details.



4) Cut & Attach Top Rails: Cut the top rail to length and then snap it into position on top of the posts. Be sure to attach decorative end caps (see step #6) to any ends that terminate against a wall face or that have limited access.

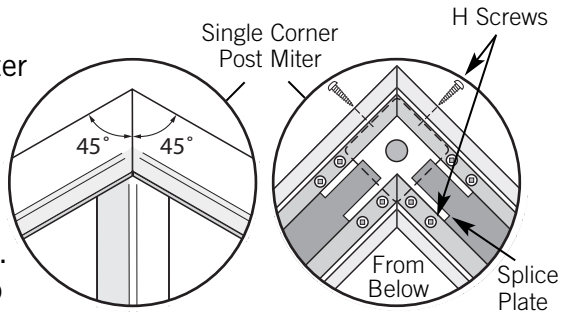
- Butt splices: always cut the top rail at 90 degrees and center the joint over a post. Use a rectangular splice plate with four H screws to secure the joint.
- Mitered corner joints with double corner posts: the top rail will extend past each of the corner posts and the actual miter joint will be unsupported. Remember to cut each top rail miter at 1/2 the total corner angle (i.e. if the corner angle is 90 degrees, cut each miter at 45 degrees). Add one splice plate to connect and stabilize the miter joint. Insert the plate before setting the two rail sections down on top of the posts; use eight (8) H screws to secure the splice plate to the rails.



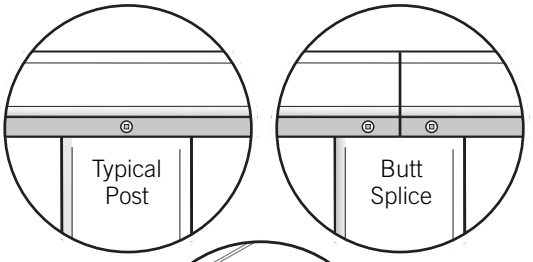


continued on next page

- Mitered corner joints with single corner post: cut each top rail miter at 1/2 the total corner angle (i.e. if the corner angle is 90 degrees, cut each miter at 45 degrees) Center the joint over the corner post. Add one splice plate to connect and stabilize the miter joint. Insert the plate before setting the two rail sections down of top of the post; use eight (8) H screws to secure the splice plate to the rails. Also, on each side of the miter cut, screw an H screw through the cap rail flange and into the post face.

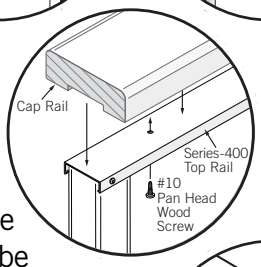


5) Fasten Top Rails: Secure the top rail to each post using two H screws (one each side); Butt splices require four screws (two each side). Screws should run through the top rail flange and into the post face.

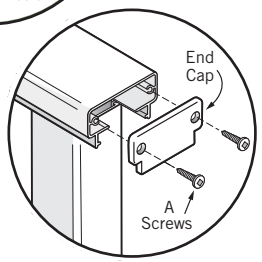


For Glass Installation Instructions:

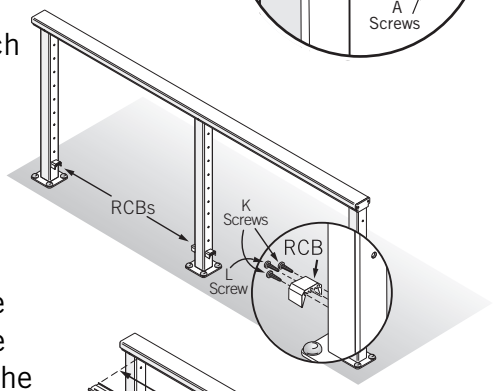
5A) Cut & Attach Wood/Composite Top Rails (for Series-400 Top Rails only): Cut the wood or composite cap rails to fit the top rails (cap rails supplied by customer). Drill holes through the top rail and use #10 Pan Head Wood Screws (screws supplied by customer) to securely attach the cap rail to the top rail. Position screws no more than 16" apart and select a screw length that will provide a minimum 5/8" penetration into the top rail. A wood or composite top rail **must** be used with a Low-Profile Top Rail (Series-400) to achieve the necessary frame strength.



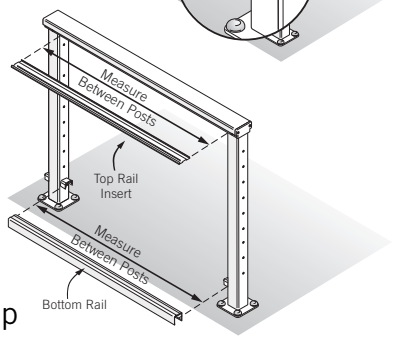
6) Attach Decorative End Caps: Attach the decorative end caps to all of the exposed top rail ends using two A screws. This applies to 200, 300, and 350 top rail options.



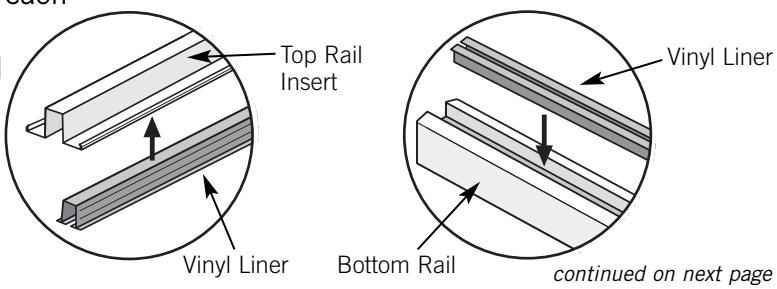
7) Attach RCBs: Locate the rail connecting bracket (RCB) holes on each post (these are pre-drilled except on stair rail posts where all the holes must be drilled in the field). Attach the RCBs to the posts using 2 K screws (outside holes) and 1 M screw (center position). Pre-drill the M screw hole for the center position after installing the K screws. The RCBs should be mounted wings down.



8) Cut Bottom Rails: Measure between each set of posts just above the RCBs. Cut the bottom rail and the vinyl liners for each section no more than 1/16" shorter than your corresponding measurement. Remember, the liner for the bottom rail has a slightly shallower slot than the liner for the top rail insert. Liners do not have to be installed as one continuous piece; separate pieces can be butted together. Cut and press vinyl liners into their respective slots in the bottom rail. Do not attach the bottom rails to the frame at this time.



9) Cut Top Rail Inserts: Measure between each set of posts just below the top rail. Cut the top rail insert and the vinyl liners for each section to no more than 1/16" shorter than your corresponding measurement. Remember, the vinyl liners for the top rail insert has a slightly deeper slot than the vinyl liner for the bottom rail. Cut and press vinyl liner into their respective slots in the top rail inserts.



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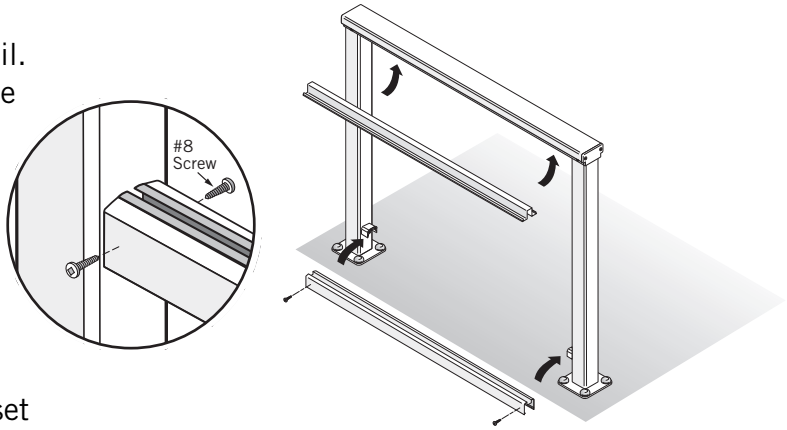
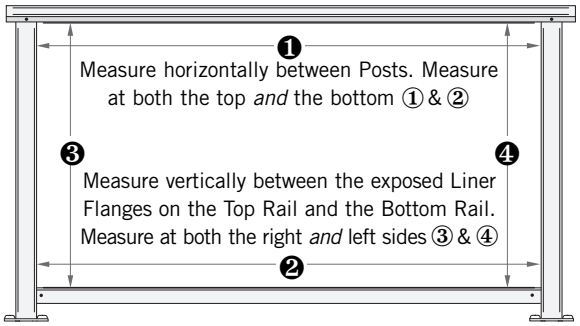
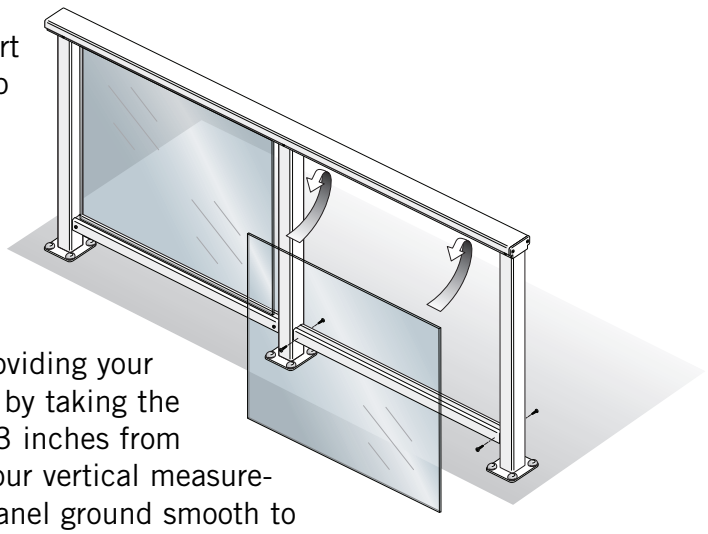
10) Install Bottom Rails and Top Rail Inserts:
Snap the top rail insert into the bottom of the top rail. Slip the bottom rail over the RCBs and fasten with the H screws. Pre-drill these holes with a 9/64" drill bit before attaching screws, as the wings of the RCBs tend to flex when pushed by the H screw. Also, be sure to slightly offset opposing screw holes so that the screws don't hit one another inside the RCB.



11) Measure For Glass Panels: Measure each infill section individually from left to right between each set of posts and from top to bottom between the exposed flanges of the vinyl liners. Do not measure from the bottoms of the inside channels of the liners. Take 4 measurements per panel (as shown in the illustration) in event the frame is not perfectly level or plumb. Record your measurements individually on the sheets provided.



12) Install Glass Panels: When installing glass panels it is necessary to lubricate the vinyl liners before installation. The glass fits very tightly in the liners, and without lubrication there is a possibility of breaking a glass panel. Soap, silicone, WD-40® or Windex® will suffice. Holding a glass panel by its vertical edges insert the top edge of the glass as far as it will go into the top rail vinyl liner. Then drop the bottom edge of the glass into the channel of the bottom rail vinyl liner until it seats completely. Slide the glass panel horizontally in the channel to center it between the posts. The same procedure also applies for stairs.



Note: Calculate Actual Glass Dimensions: If you are providing your own glass, calculate the actual glass panel dimensions by taking the measurements as described in step 11 and deducting 3 inches from your horizontal measurement and adding 3/4 inch to your vertical measurement. Be sure to have the two vertical edges of each panel ground smooth to remove the sharp edges and prevent the chance of someone cutting themselves during installation.

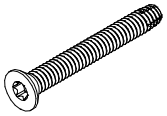
This completes a Glass System installation.

FLAT HEAD SCREWS

A. 7294: #8 x 1" SS SCREW, FLAT HEAD, PHILLIPS DRIVE

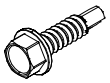
B. 7289: #10 x 3/4" SS SCREW, FLAT HEAD, SQUARE DRIVE

C. 7273: #12 x 1" SS SCREW, FLAT HEAD, SQUARE DRIVE

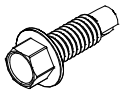


D. 7265: #14 x 2" STEEL MAGNA-COAT SCREW, TYPE F, FLAT HEAD, TORX DRIVE

HEX HEAD SCREWS



E. 7017: #14 x 1" SS SELF-TAPPING SCREW, HEX WASHER HEAD



F. 8024: 5/16" x 1" SS SELF-TAPPING SCREW, HEX WASHER HEAD

PAN HEAD SCREWS

G. 7272: #10 x 3/4" SS SCREW, PAN HEAD, SQUARE DRIVE

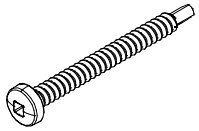
H. 7270: #8 x 3/4" SS SELF-TAPPING SCREW, PAN HEAD, SQUARE DRIVE

I. 7285: #8 x 1" SS SELF-TAPPING SCREW, PAN HEAD, SQUARE DRIVE

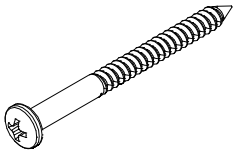
J. 7271: #10 x 1-1/2" SS SELF-TAPPING SCREW, PAN HEAD, SQUARE DRIVE

K. 7267: #10 x 1-3/4" SS SELF-TAPPING SCREW, PAN HEAD, SQUARE DRIVE

L. 7355: #10 x 2" SS SELF-TAPPING SCREW, PAN HEAD, SQUARE DRIVE



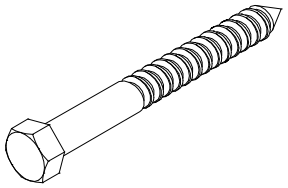
M. 7802: #12 x 2" SS SELF-TAPPING SCREW, PAN HEAD, SQUARE DRIVE



N. 7282: #14 x 3" SS SCREW, PAN HEAD, #3 PHILLIPS DRIVE

O. 7966: #14 x 4" SS SCREW, PAN HEAD, #3 PHILLIPS DRIVE

LAG SCREWS



P. 7277: 3/8" x 3-1/2" LAG SCREW, HEX HEAD

Q. 6565: 3/8" x 4-1/2" LAG SCREW, HEX HEAD

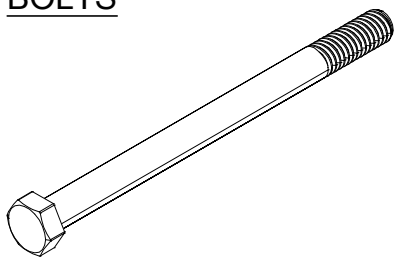
R. 7280: 3/8" x 5" LAG SCREW, HEX HEAD

S. 7278: 3/8" x 6" LAG SCREW, HEX HEAD

T. 7209: 3/8" x 6-1/2" LAG SCREW, HEX HEAD

U. 7248: 3/8" x 7" LAG SCREW, HEX HEAD

BOLTS

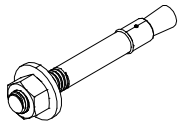


V. 8017: 3/8"-16 x 5" CAP SCREW, HEX HEAD

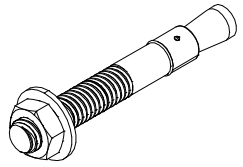
W. 8016: 3/8"-16 x 6" CAP SCREW, HEX HEAD

X. 8004: 3/8"-16 x 7" CAP SCREW, HEX HEAD

EXPANSION ANCHORS



Y. 7276: 1/4" x 2-1/4" EXPANSION ANCHOR

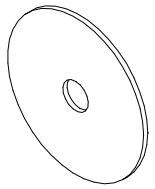


Z. 8015: 3/8" x 3" EXPANSION ANCHOR

AA. 7356: 3/8" x 3-3/4" EXPANSION ANCHOR

BB. 7288: 3/8" x 5" EXPANSION ANCHOR

CC. 7284: 3/8" x 6-1/2" EXPANSION ANCHOR



DD. 7224: 3/8" ID, 2" OD FENDER WASHER

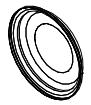
EE. 7225: 3/8"-16, NYLON INSERT LOCKNUT, HEX HEAD

WASHERS

FF. 7070: 1/4" ID WASHER, FOR SMALL VINYL CAPS

GG. 7062: 1/4" ID WASHER, FOR LARGE VINYL CAPS

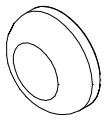
HH. 7063: 3/8" ID WASHER, FOR LARGE VINYL CAPS



II. 7064: 9/16" ID WASHER, FOR LARGE VINYL CAPS

CAPS

JJ. PART # VARIES: VINYL CAP (SMALL)



KK. PART # VARIES: VINYL CAP (LARGE)

DesignRail® Reference Drawing:

STANDARD ASSEMBLY HARDWARE

DATE:	9/16/2015
PAGE:	1 of 1
REV:	
BY:	BWA
CHK:	

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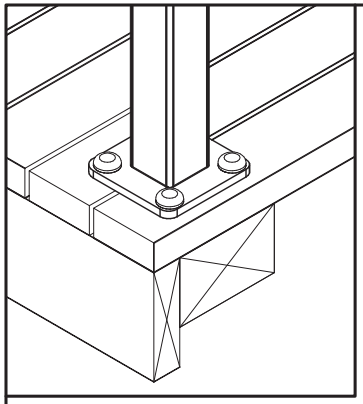
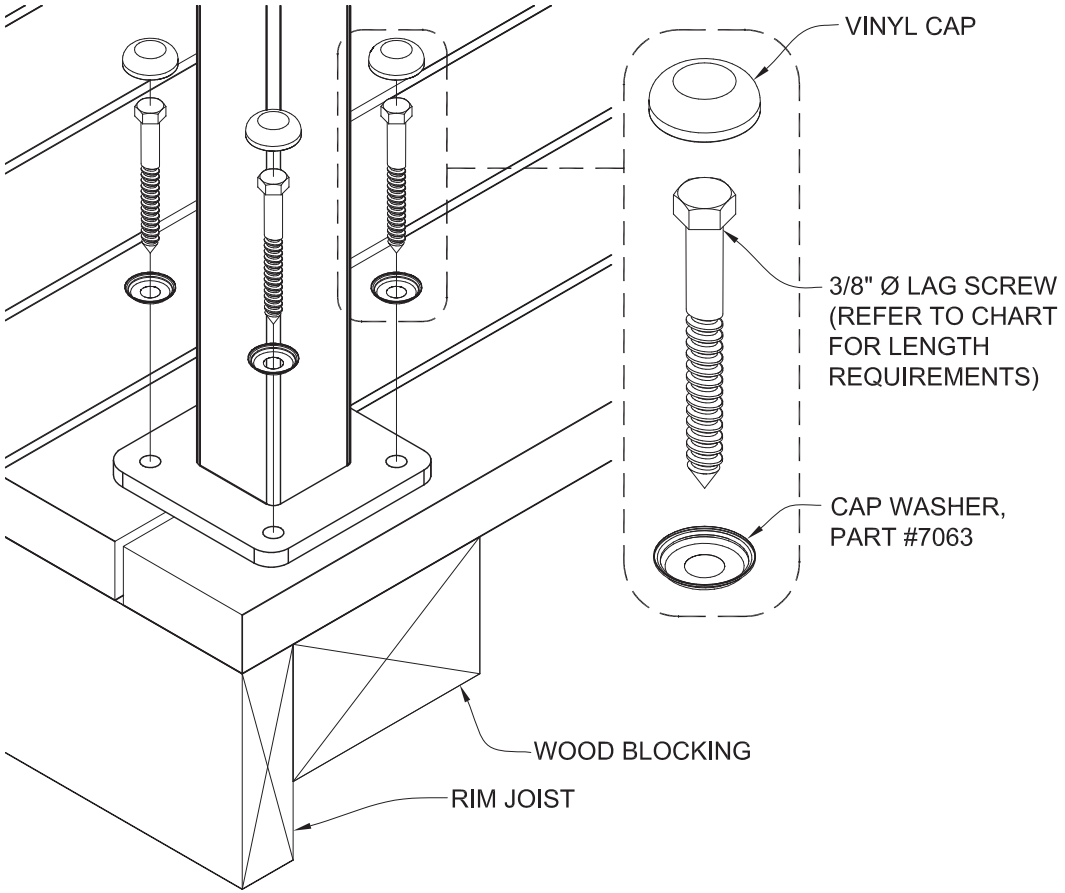
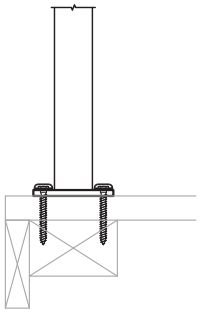
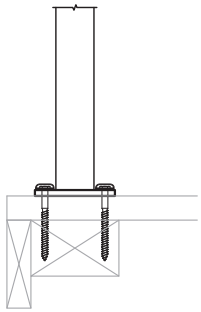
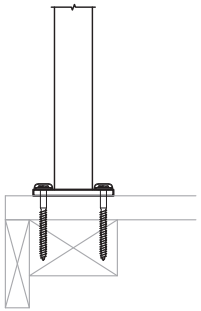
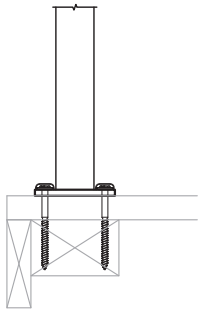
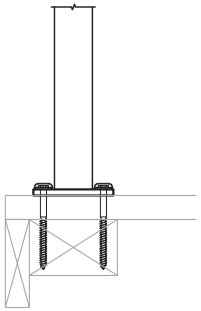
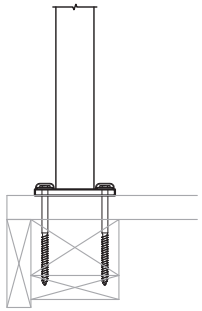


NOTES:
MINIMUM LAG PENETRATION DIMENSION, REFER TO REQUIREMENTS FOR LAG SCREW PENETRATION INTO SOLID LUMBER. LUMBER ASSUMED TO HAVE A MINIMUM 0.43 SPECIFIC GRAVITY (ie: HEM-FIR).

WOOD DECK BOARDS MUST BE PROPERLY ATTACHED TO STRUCTURE TO ACCOUNT FOR A PORTION OF THE LAG SCREW PENETRATION REQUIREMENT.

IF USING COMPOSITE MATERIAL AS DECKING, DECK BOARDS WILL NOT CONTRIBUTE TO PENETRATION REQUIREMENT. LAG SCREW LENGTH AND BLOCKING MUST BE ADJUSTED TO ACCOUNT FOR ADDITIONAL LENGTH, AS NECESSARY.



		INTERIOR	EXTERIOR
RESIDENTIAL (MAX 6' OC)	36"	 3" MIN. LAG PENETRATION 3-1/2" LAG SCREWS, PART #7277	 4" MIN. LAG PENETRATION 4-1/2" LAG SCREWS, PART #6565
	38"-42"	 3-1/2" MIN. LAG PENETRATION 4-1/2" LAG SCREWS, PART #6565	 4-1/2" MIN. LAG PENETRATION 5" LAG SCREWS, PART #7280
COMMERCIAL (MAX 5' OC)	42"	 4-1/2" MIN. LAG PENETRATION 5" LAG SCREWS, PART #7280	 5-5/8" MIN. LAG PENETRATION 6" LAG SCREWS, PART #7278

dESIGN·RAil® Reference Drawing:

BASE MOUNT TO WOOD - LAG SCREWS

DATE:	06/10/15
PAGE:	1 OF 1
REV:	
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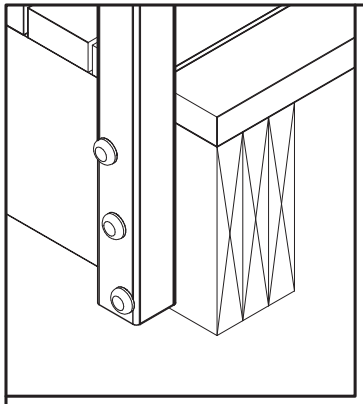
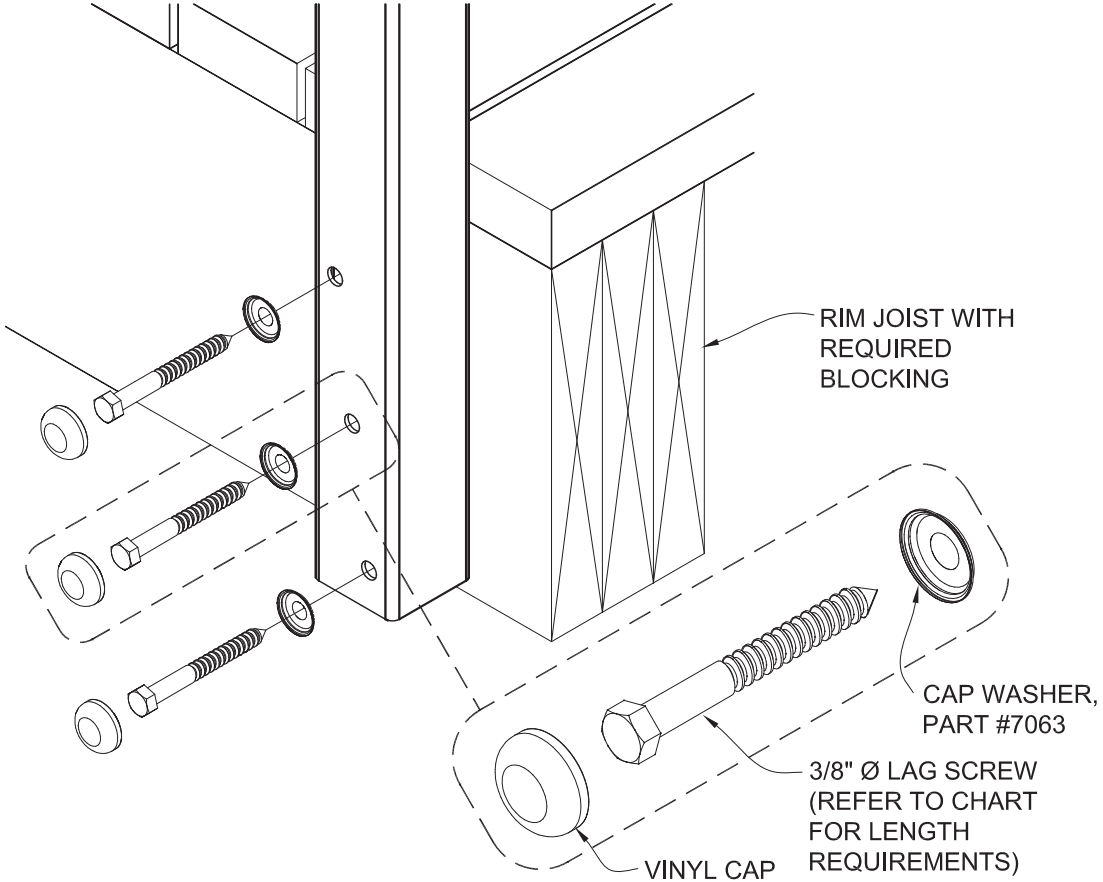


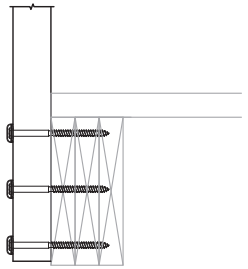
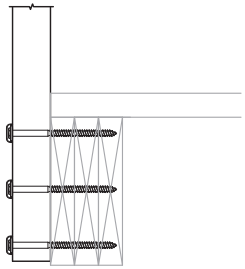
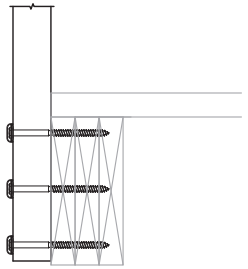
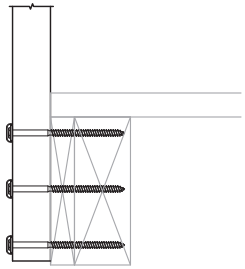
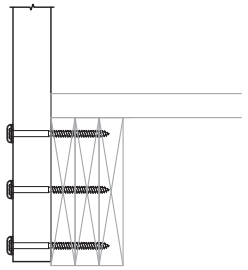
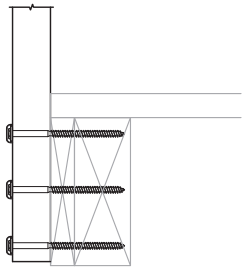
NOTES:
MINIMUM LAG PENETRATION DIMENSION, REFER TO REQUIREMENTS FOR LAG SCREW PENETRATION INTO SOLID LUMBER. LUMBER ASSUMED TO HAVE A MINIMUM 0.43 SPECIFIC GRAVITY (ie: HEM-FIR).

RIM JOIST AND BLOCKING MUST BE PROPERLY ATTACHED TO STRUCTURE TO RESIST TRANSFERRED LOADS FROM POSTS.

IF USING COMPOSITE MATERIAL AS FASCIA BOARD, FASCIA THICKNESS WILL NOT CONTRIBUTE TO PENETRATION REQUIREMENT. LAG SCREW LENGTH AND BLOCKING MUST BE ADJUSTED TO ACCOUNT FOR ADDITIONAL LENGTH, AS NECESSARY.

BOLT PATTERN MAY VARY DEPENDING ON JOIST HEIGHT AND PROJECT TYPE.



		INTERIOR	EXTERIOR
RESIDENTIAL (MAX 6' OC)	36"	 2-3/4" MIN. LAG PENETRATION 6" LAG SCREWS, PART #7278	 3-5/8" MIN. LAG PENETRATION 6-1/2" LAG SCREWS, PART #7209
	38"-42"	 3" MIN. LAG PENETRATION 6" LAG SCREWS, PART #7278	 4" MIN. LAG PENETRATION 7" LAG SCREWS, PART #7248
COMMERCIAL (MAX 4' OC)	42"	 3" MIN. LAG PENETRATION 6" LAG SCREWS, PART #7278	 4" MIN. LAG PENETRATION 7" LAG SCREWS, PART #7248

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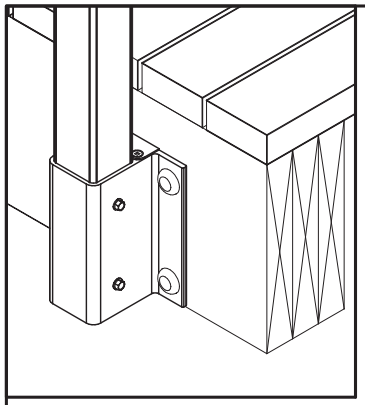

NOTES:
MINIMUM LAG PENETRATION DIMENSION, REFER TO REQUIREMENTS FOR LAG SCREW PENETRATION INTO SOLID LUMBER. LUMBER ASSUMED TO HAVE A MINIMUM 0.43 SPECIFIC GRAVITY (ie: HEM-FIR).

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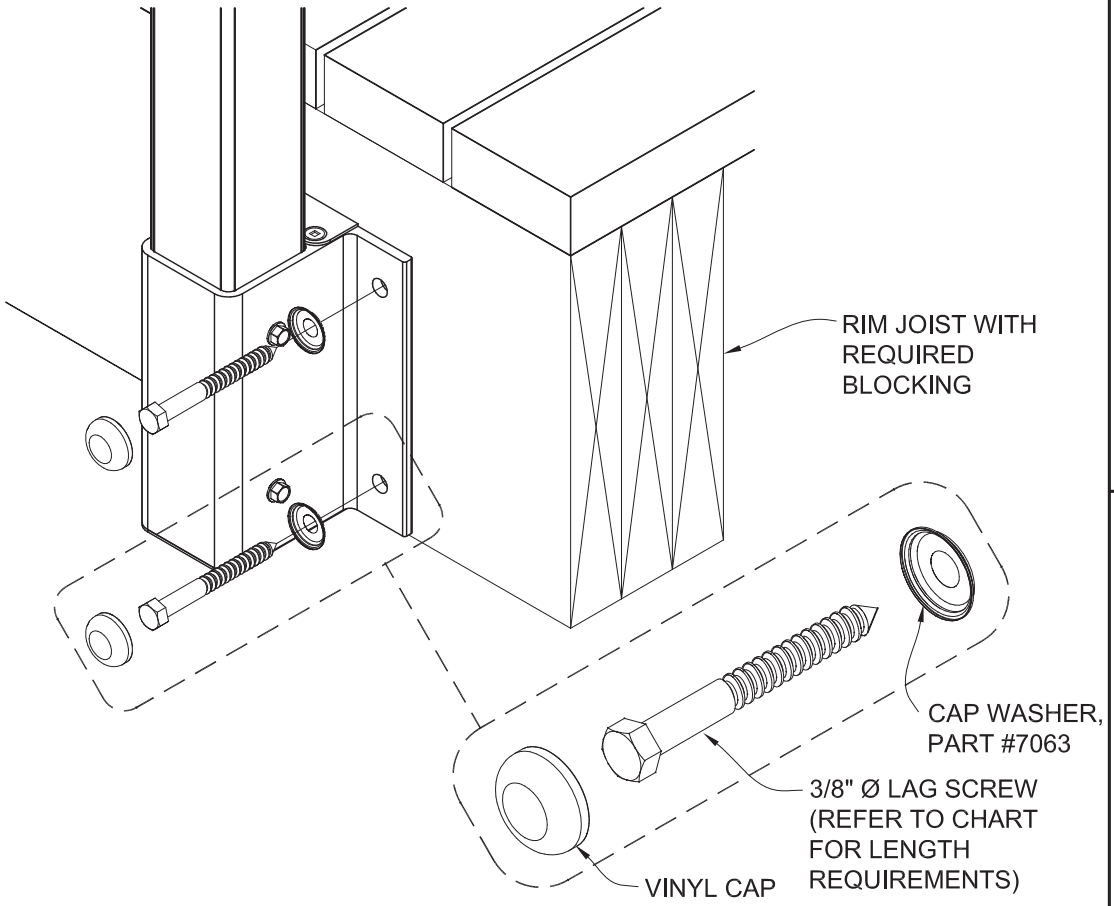
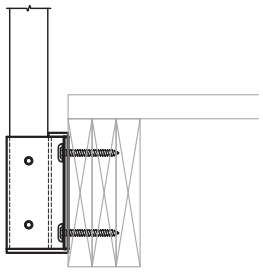
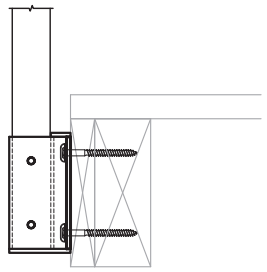
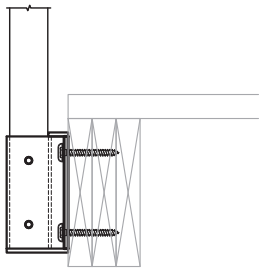
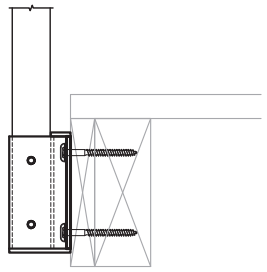
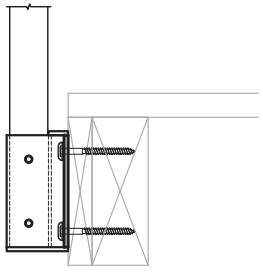
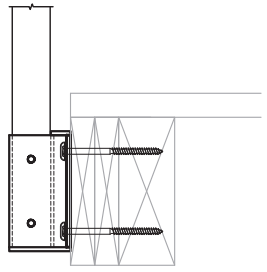
BOLT PATTERN MAY VARY DEPENDING ON JOIST HEIGHT AND PROJECT TYPE.



		INTERIOR	EXTERIOR
RESIDENTIAL (MAX 6' OC)	36"	 3" MIN. LAG PENETRATION 3-1/2" LAG SCREWS, PART #7277	 3-3/4" MIN. LAG PENETRATION 4-1/2" LAG SCREWS, PART #6565
	38"-42"	 3-1/4" MIN. LAG PENETRATION 3-1/2" LAG SCREWS, PART #7277	 4-1/4" MIN. LAG PENETRATION 4-1/2" LAG SCREWS, PART #6565
COMMERCIAL (MAX 5' OC)	42"	 4" MIN. LAG PENETRATION 4-1/2" LAG SCREWS, PART #6565	 5" MIN. LAG PENETRATION 6" LAG SCREWS, PART #7278

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