

NOVA II

Installation Instructions

The NOVA II System features a powder-coated aluminum framework (offered in black, white or bronze color options) combined with horizontal stainless steel cable infill. The framework is made up of posts with top and bottom rails. The cable infill consists of HandiSwage™ fittings and 1/8" cable.

The following guide will take you step-by-step through the process of installing your NOVA II System.



ATLANTIS

RAIL SYSTEMS

CONTACT INFORMATION:

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TOOLS NEEDED

Here is a list of tools needed to install your NOVA II System. Most of the required tools are common. For the tools that are not common, Atlantis Rail offers a complete selection of specialized tools to successfully complete your installation.

- | | |
|---|------------------------|
| - Power Drill | - Gloves |
| - Vice Grips | - Safety Glasses |
| - Tape Measure | - Allen Wrenches |
| - Rubber Mallet | - Carpenter's Square |
| - Chalk Line | - Hack Saw |
| - Ratchet & Socket Set | - Level |
| - Silicone Caulk | - Drill Bit Set |
| - Miter Saw with a Non-Ferrous Carbide Tipped Blade | - Pencil |
| | - Open Wrench Set |
| | - Phillips Driver Bits |

Specialized tools offered by Atlantis Rail



Hand Swage Tool
#E0113-H600



Cable Cutter
#C0989-00HD



Touch-up Paint
#A0906-P051-XX



Cable Grip Pad
#E0114-0000



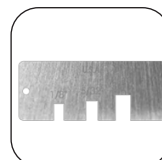
HandiSwage™
Cutting Disk - 2pk
#E0113-CD04-2



3/8" & 7/16"
Combination
Wrench Set
#C0731-TK01-2



Grommet Install
Tool
#E0916-1000



After Swage
Gauge
#E0113-HG00



Curved Lacing
Needle - 2pk
#C0988-400C-2



A. Top Stair Rail



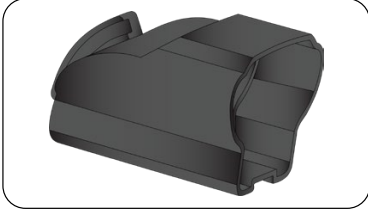
B. Bottom Stair Rail



C. Top Stair Rail Bracket Base



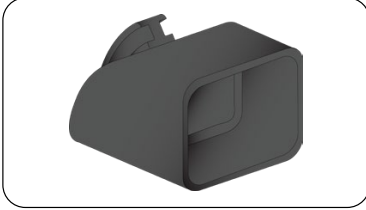
D. Upper Stair Rail Bracket



E. Lower Stair Rail Bracket



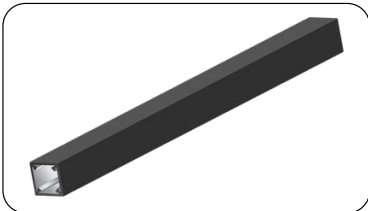
F. Bottom Stair Rail Bracket Base



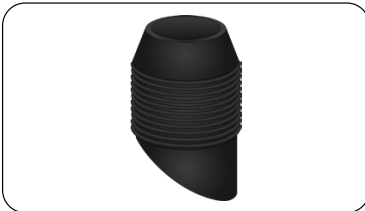
G. Bottom Stair Rail Bracket



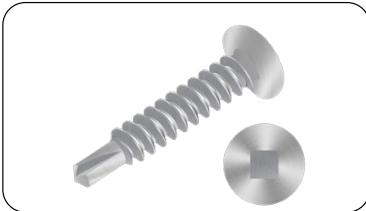
H. Cable Stabilizer, Slotted



I. Support Block



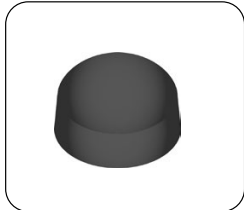
J. Stabilizer & Support Block Connector



K. #10 Self-Drilling Screw



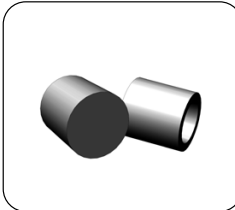
L. Support Block Base Kit



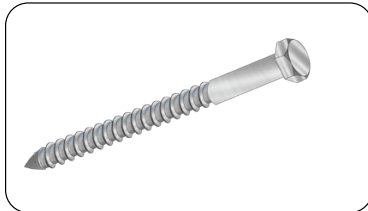
M. Plastic Cover Nut



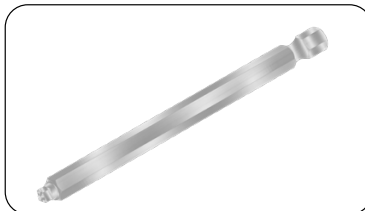
N. Set Screw



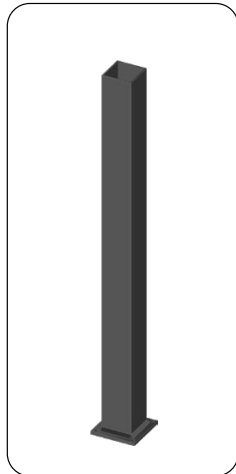
O. Set Screw Cover



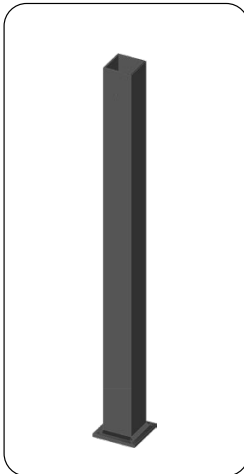
P. Lag Bolt



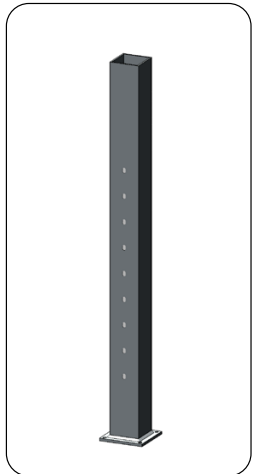
Q. 3-1/2" Square Driver Bit



R. 36" Stair Post, Un-Drilled



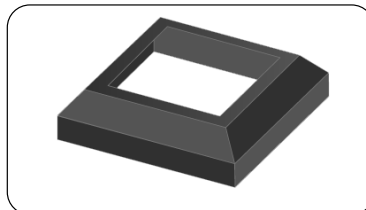
S. 42" Stair Post, Un-Drilled



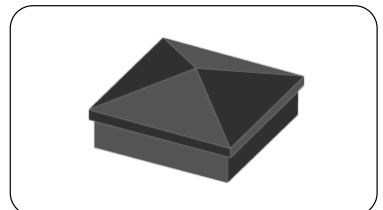
T. 42" Mid Stair Post, Slotted



U. Post Pad, Drilled



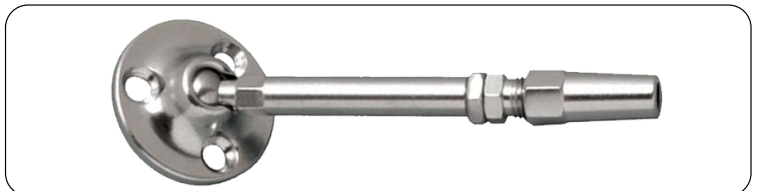
V. Post Skirt



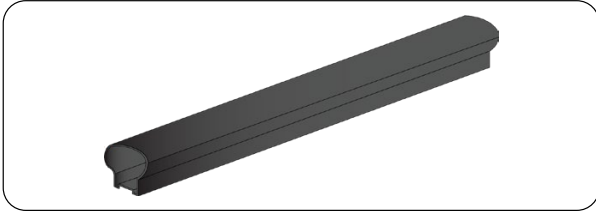
W. Post Cap



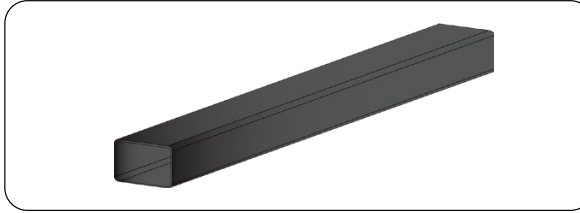
X. NOVA Single Mount Tensioner 1/8"



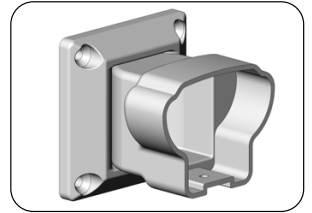
Y. HandiSwage™ Tensioner 1/8"



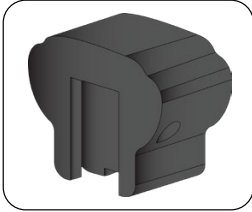
AA. Top Rail



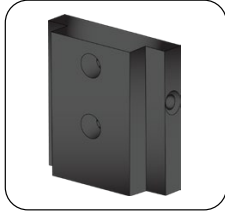
AB. Bottom Rail



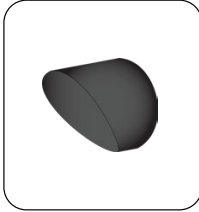
BA. Top Adjustable Rail Bracket



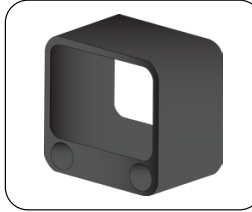
AC. Top Rail Bracket



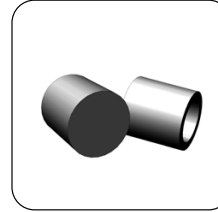
AD. Bracket Key



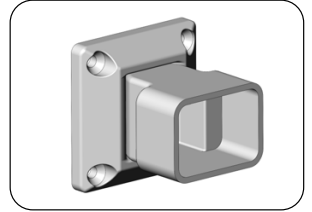
AE. Angled Screw Cover



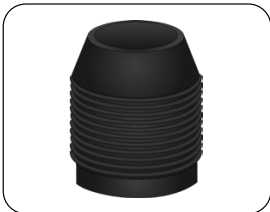
AF. Bottom Rail Bracket



AG. Screw Cover



BB. Bottom Adjustable Rail Bracket



AH. Stabilizer & Support Block Connector



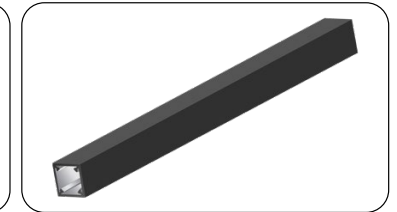
AI. #10 Self-Drilling Screw



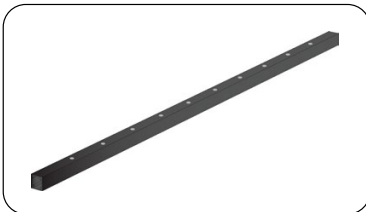
AJ. Support Block Base Kit



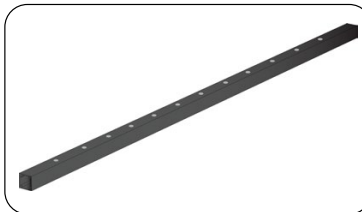
AK. Button Head Screw



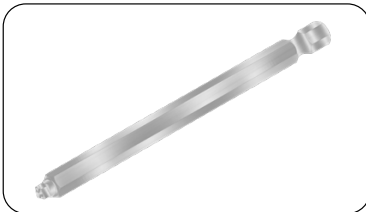
AL. Support Block



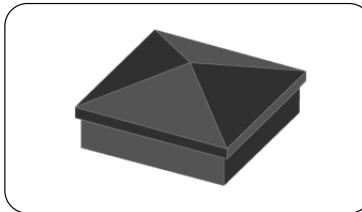
AM. Cable Stabilizer, Drilled (36" System)



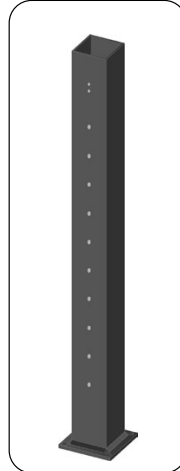
AN. Cable Stabilizer, Drilled (42" System)



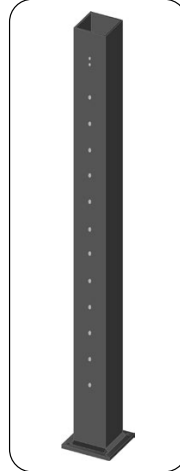
AO. 3-1/2" Square Driver Bit



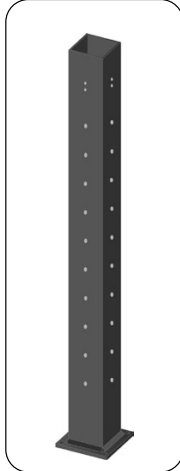
AP. Post Cap



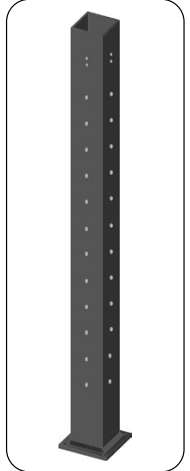
AQ1. 36" Universal Post, Drilled



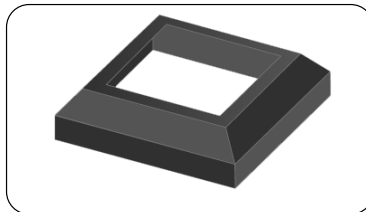
AQ2. 42" Universal Post, Drilled



AR1. 36" Corner Post, Drilled



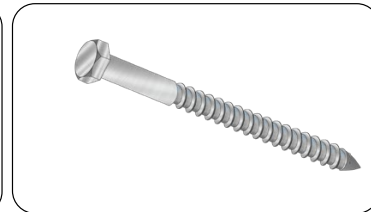
AR2. 42" Corner Post, Drilled



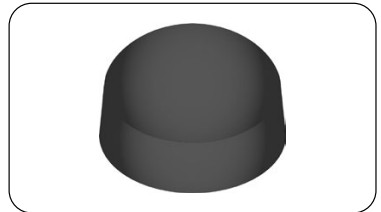
AS. Post Skirt



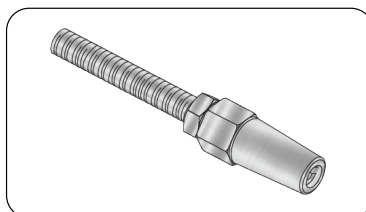
AT. Post Pad, Drilled



AU. Lag Bolt



AV. Plastic Cover Nut



AW. NOVA 1/8" Stud



AX. Plastic Washer



AY. Cable Grommet

WARNINGS

STORE YOUR ORDER INDOORS TO KEEP DRY!

Some items in your order have been shrink wrapped with a protective poly film. Avoid exposing these items to harsh weather and moisture to avoid damaging powder coated surfaces. When you're ready to install product, remove the protective shrink wrap before or immediately after installation.

WARRANTY REQUIREMENTS:

Refer to the Rail Care Guide(s) for required cleaning and maintenance guidelines. Failure to follow the required cleaning and maintenance guidelines will void the warranty.

ALWAYS REFER TO YOUR LOCAL BUILDING CODE OFFICIALS PRIOR TO INSTALLING ANY ATLANTIS RAIL SYSTEM to ensure all code and safety requirements are met. Atlantis Rail Systems is not responsible for improper or non-recommended installations.

ATLANTIS RAIL SYSTEMS PROVIDES A VARIETY OF MOUNTING OPTIONS FOR POSTS AND RAILS USED IN OUR SYSTEMS. PRODUCTS OF THIS NATURE REQUIRE THAT MOUNTING SURFACES ARE CONSTRUCTED TO BE CONSIDERED STRUCTURAL PER BUILDING CODE DEFINITION FOR THE SURFACE MATERIAL USED. Structural integrity and building code compliance of mounting surfaces are the responsibility of the end user and/or installer. The use of any of our mounting methods are at the option and decision of the end user and/or installer and should be selected to match the structural material used to create the mounting surface.

NOVA II STAIR SYSTEMS ACCOMMODATE STAIR ANGLES BETWEEN 29 AND 41 DEGREES ONLY.

ALWAYS WEAR PERSONAL PROTECTION EQUIPMENT during the installation process. Safety Glasses and work gloves are highly recommended.

INSTALL TIPS

Follow the tips below to ensure a successful installation of your NOVA II System

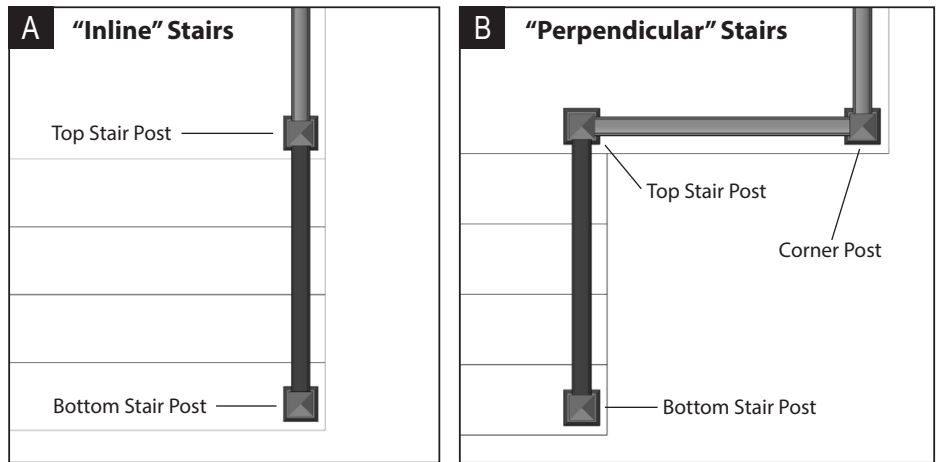
- **READ THE INSTRUCTIONS** completely before beginning the installation.
- **PLAN YOUR RAILING PROJECT.** Sketch your project with the actual measurements of your deck or balcony complete with post locations.
- **FIND A HELPER.** Installation is best accomplished with two (2) people.
- **CHECK CARTON(S)** to determine part count is complete.
- **ALWAYS WEAR PERSONAL PROTECTION EQUIPMENT;** safety glasses, work gloves, etc.
- **DO NOT OVER-TORQUE THE SCREWS.** Pre-drilling is recommended.
- **PROVIDED HARDWARE TO INSTALL THE NOVA II SYSTEM IS FOR USE WITH NOVA II ALUMINUM POSTS.** If installing to other surfaces, you must acquire the appropriate hardware as needed for proper installation.
- **TOUCH-UP ANY SCRATCHES.** After completing the installation of your NOVA II System look for any scratches and/or damage to the powdercoating. These can easily be fixed using the our NOVA II Touch-Up Paint.

Confirm the Contents of Packaging: Make sure to verify that the system components for your order are present.

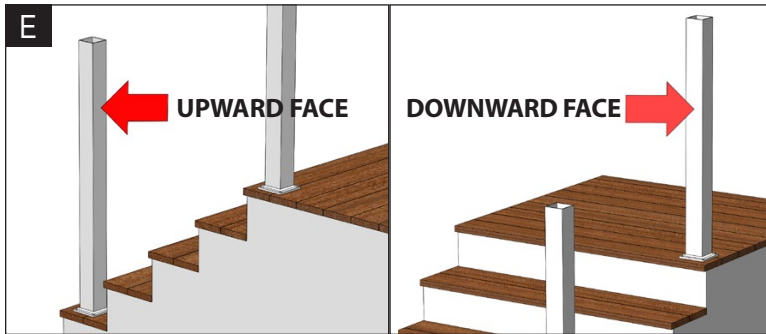
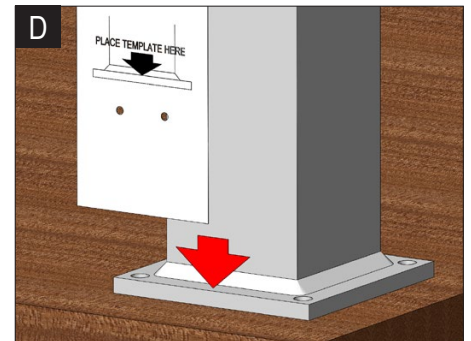
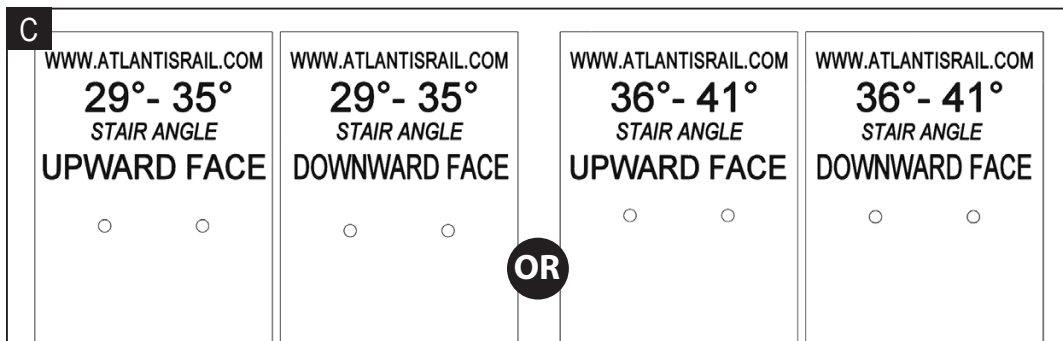
INSTALL THE STAIR POSTS

- 1. Gather the Posts and Position them in their General Locations per your Plan Layout.**
- 2. Considerations for Positioning the Top Stair Post(s):**

Whether the stair rail section is "inline" with the level section railing (See Figure A) or "perpendicular" (See Figure B), you will use an Undrilled Post at the top of the stairs to make the transition from level rail to stairs. This requires drilling the post to attach cable and hardware.



- 3. Mark & Pre-Drill Posts for Rail Brackets and Tensioners:** Based on the angle degree of your stairs, choose the appropriate paper "drilling template" (See Figure C). You can find the paper "drilling templates" within the Stair Rail Brackets Kit packaging. When using the templates, be sure to place the bottom of the template on top of the post flange (See Figure D). Mark the locations of the mounting holes onto the Upward face of the bottom stair post and the Downward face of the top stair post (See Figure E).

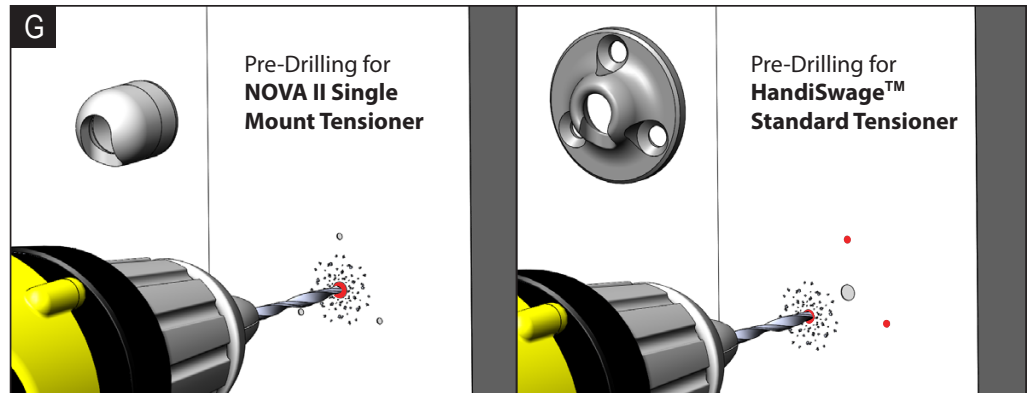
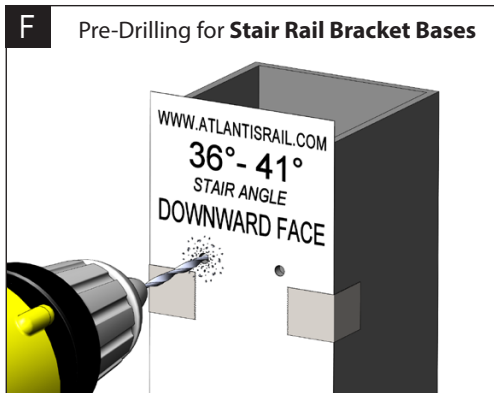


Pre-Drill the Posts.

For RAIL BRACKETS - use a 5/32" drill bit (See Figure F).

STAIR MID POSTS (Component T) come "slotted" for cable, but require the use of the paper "drilling template" for drilling the Stair Rail Bracket Base mounting holes.

For TENSIONERS - use a 7/32" drill bit for the **NOVA Single Mount Tensioner** or use a 9/64" drill bit for the **HandiSwage™ Standard Tensioner** (See Figure G).



4. Mount the Posts:

Keep in mind, it is critical that the mounting hardware penetrate into the structure in accordance with local building codes.

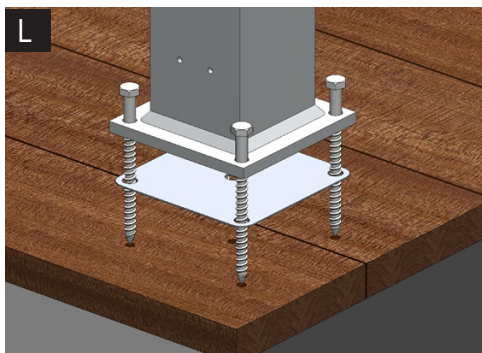
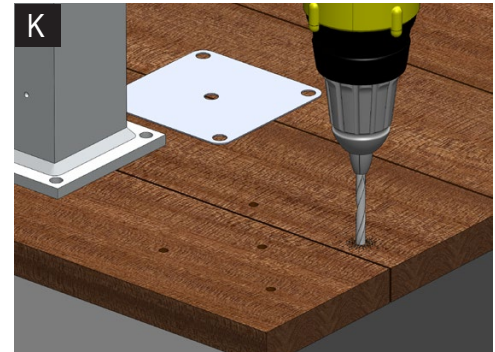
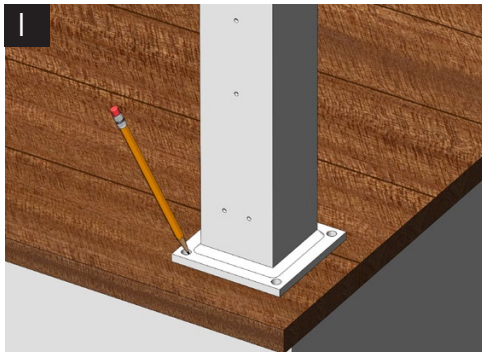
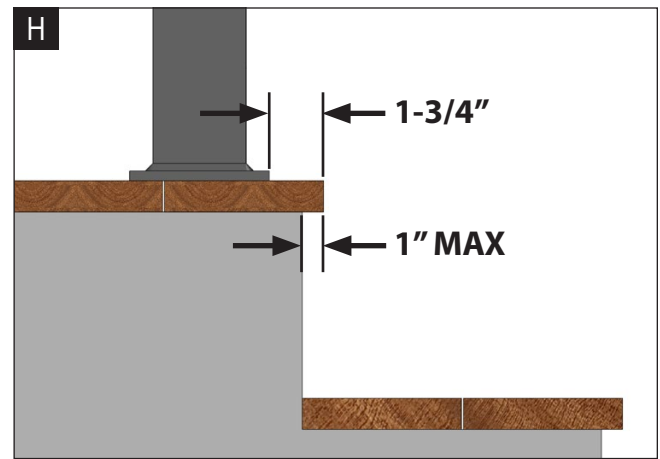
Position all stair posts (top, bottom and mid posts) making sure to follow our recommended placement measurements (See Figure H).

Mark the location of mounting holes and the center hole of the Post Pad (Component U). Pre-drill using a 1/4" drill bit (See Figures I, J & K).

Use the Lag Bolts (Component P) to anchor the Posts (See Figure L).

Make sure the Posts are installed plumb.

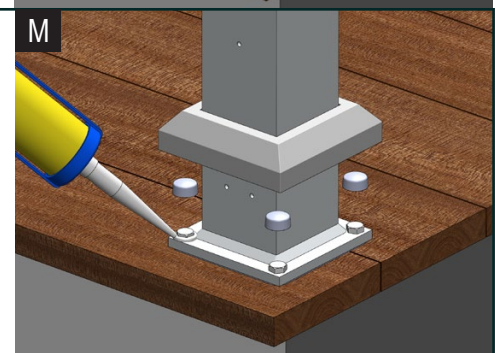
Use Post Shims, if necessary.



5. Install the Plastic Cover Nuts and Post Skirts:

Use silicone caulk on the Lag Bolt heads before installing the Plastic Cover Nuts (Component M) (See Figure M).

DON'T FORGET to install the Post Skirts (Component V).

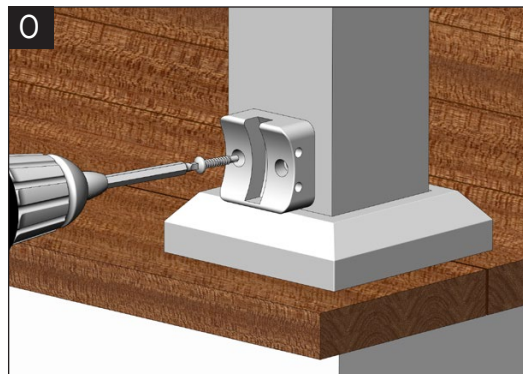
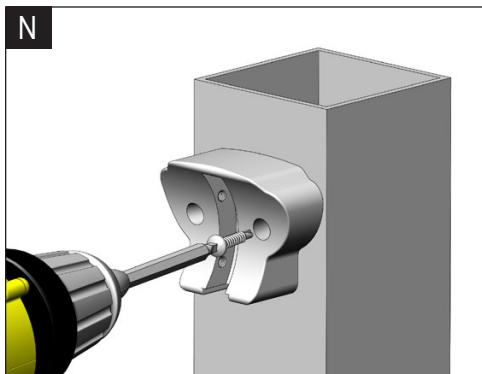


INSTALL THE RAIL BRACKET BASES

6. Install the Top and Bottom Stair Rail Bracket Bases:

Using the #10 Self-Drilling Screws (Component K), install the Top and Bottom Stair Rail Bracket Bases (Components C & F) onto the post. Make sure the slots on the Top Stair Rail Bracket Bases are facing down (See Figure N) and the slots on the Bottom Stair Rail Bracket Bases face up (See Figure O).

TIP: When installing the Bottom Stair Rail Bracket Base on the upward face of the post(s), use a ratchet with a square driver bit to fasten. There is not enough room for a power drill.

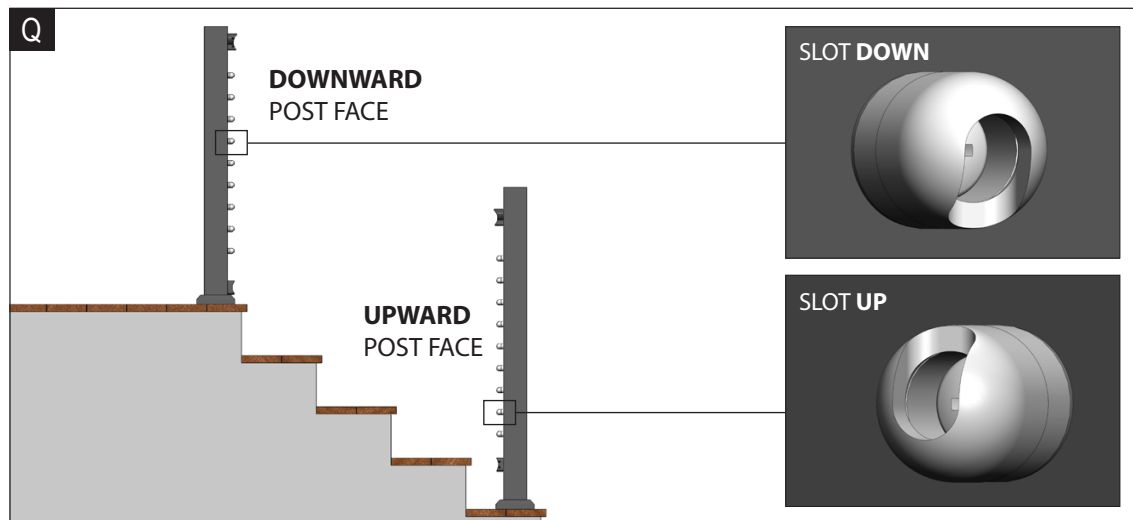
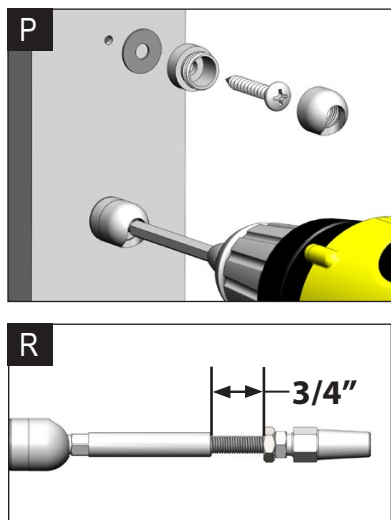
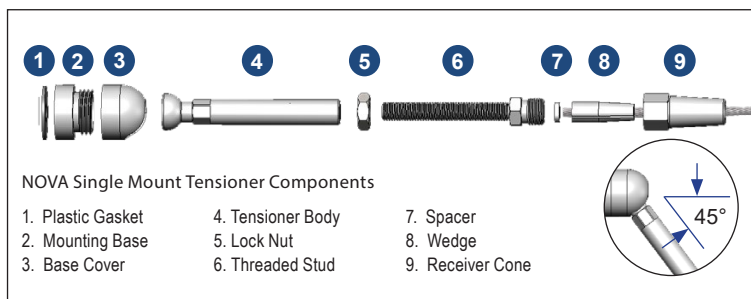


INSTALL THE TENSIONERS

7. The NOVA II Stair Railing utilizes either NOVA Single Mount Tensioners (Component X) **or** HandiSwage™ Tensioners (Component Y). Refer to the steps below to install the tensioners you have chosen for your system.

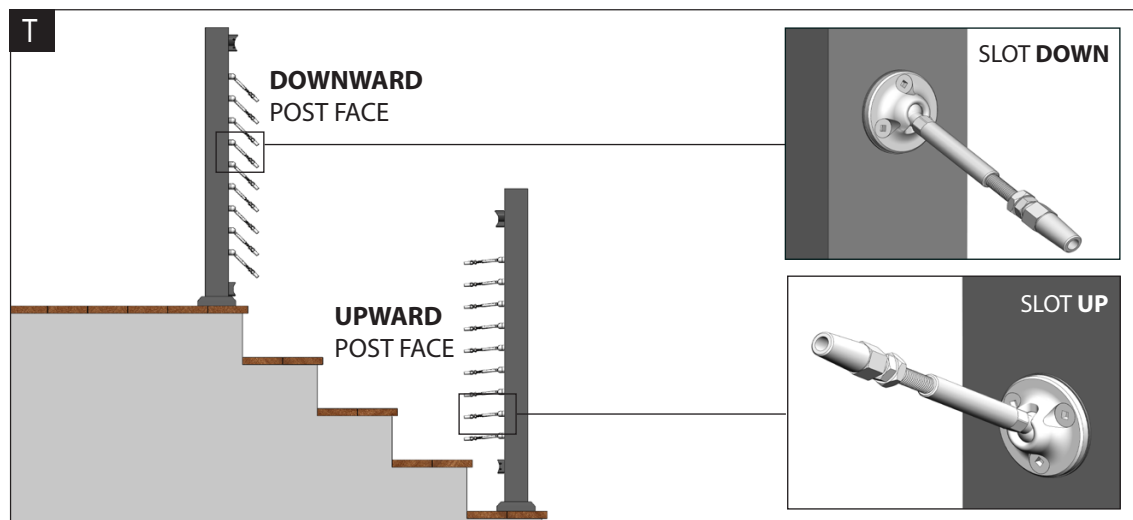
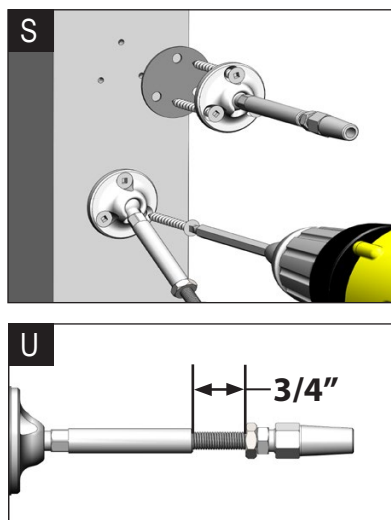
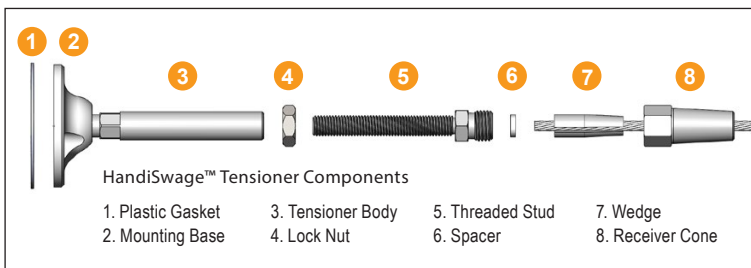
A. Installing NOVA Single Mount Tensioners:

Dissassemble the tensioners by removing the Threaded Stud and unscrewing the Base Cover. Reassemble the tensioner bases making sure to insert #14 screw before threading on the Base Cover. Install the tensioner bases to the posts using the Plastic Gasket in between the post and mounting base (See Figure P). Be careful not to strip the screw head. The slots on the tensioner base should aim down on the downward post face (See Figure Q). Reassemble the tensioners leaving $\frac{3}{4}$ " of thread exposed (See Figure R). For cable runs over 20 feet, extend the threaded stud an additional $\frac{1}{4}$ " for each additional 10 feet.



B. Installing HandiSwage™ Tensioners:

Install each tensioner to the posts using (3) #8 x 1-1/2" Screws, making sure to place the Plastic Gasket in between the post and tensioner Mounting Base (See Figure S). Be careful not to strip the screw heads. The tensioner assemblies will aim down on the downward post face and aim up on the upward post face (See Figure T). Adjust the Threaded Stud on each tensioner until $\frac{3}{4}$ " of thread is exposed (See Figure U). For cable runs over 20 feet, extend the threaded stud an additional $\frac{1}{4}$ " for each additional 10 feet.



INSTALL THE STAIR RAIL KIT

8. Measure and Cut the Rails:

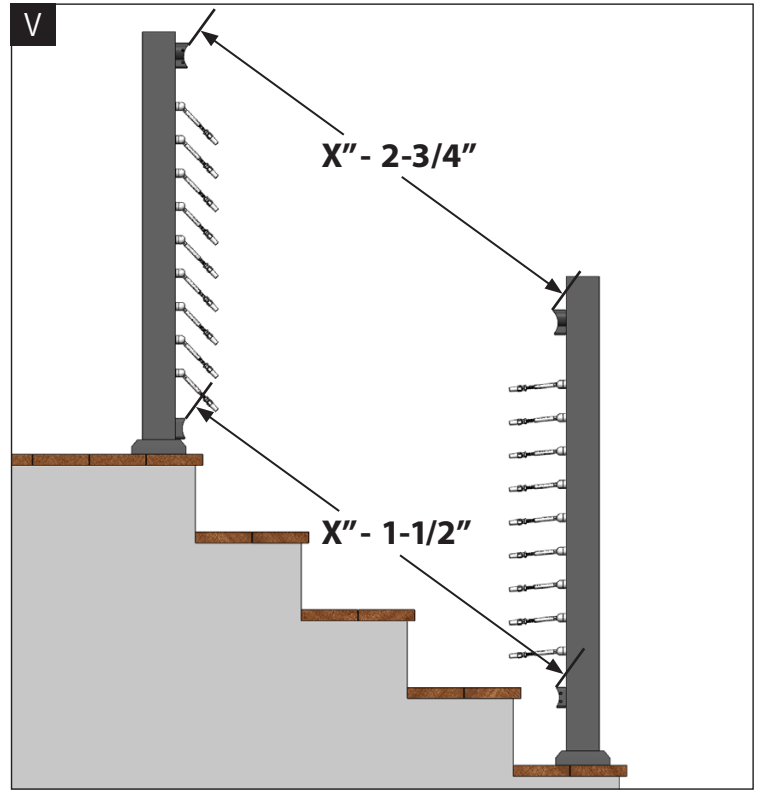
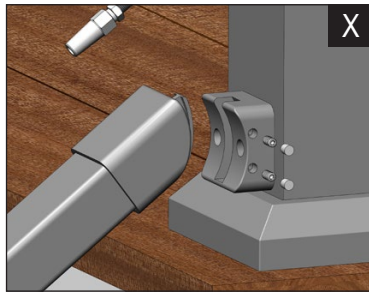
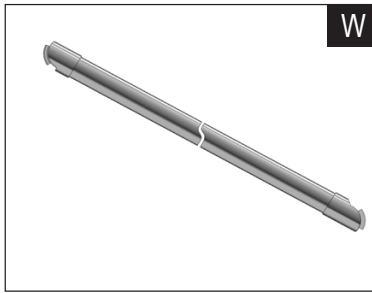
Measure from the top edge to top edge of the Stair Rail Bracket Bases (See Figure V).

For the Top Rail (Component A), subtract 2-3/4".

For the Bottom Rail (Component B), subtract 1-1/2".

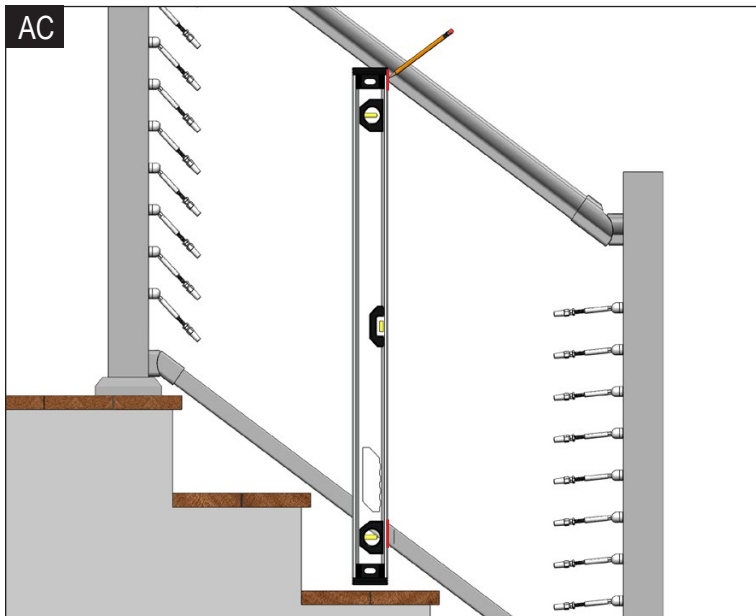
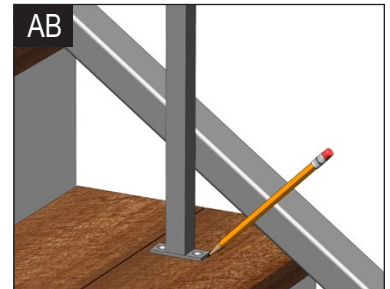
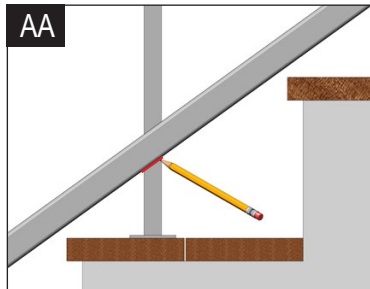
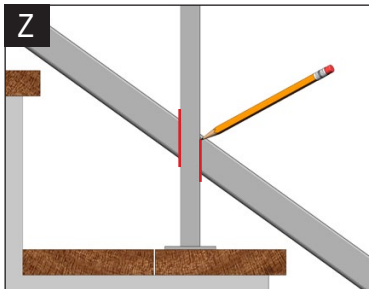
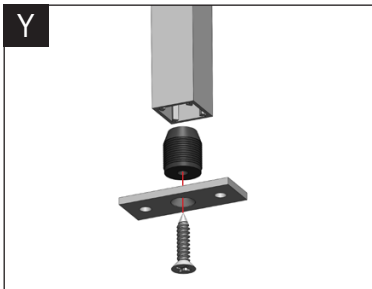
Mark the rails and cut using a miter saw with a non-ferrous carbide tipped blade.

- 9. Temporarily Install the Top and Bottom Rails:** Slide the Rail brackets (Components D,E & G) over each end of the rails. Make sure the rail brackets are oriented correctly (See Figure W). Insert the rib on each bracket into the slot on the rail bracket bases. Install the Set Screws (Component N) into the side of each rail bracket base (See Figure X).



- 10. Mark the location of the Support Block and Stabilizer** (If your Stair Rail Section is UNDER 4 FEET, you DO NOT need to install the Support Block and Stabilizer. Skip to STEP 15, if your Rail Section is UNDER 4 FEET)

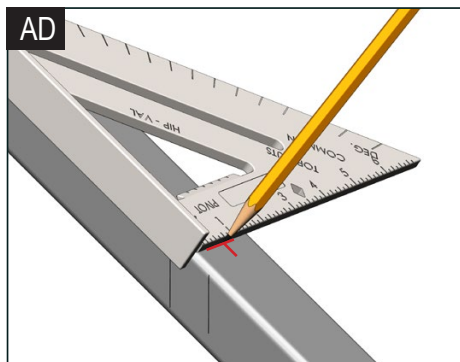
Assemble the Support Block Base Kit (Component L) (See Figure Y). Position the Support Block Base with the Support Block (Component I) in place and mark the bottom rail, the back side of the support block, as well as the stair tread (See Figure Z, AA & AB).

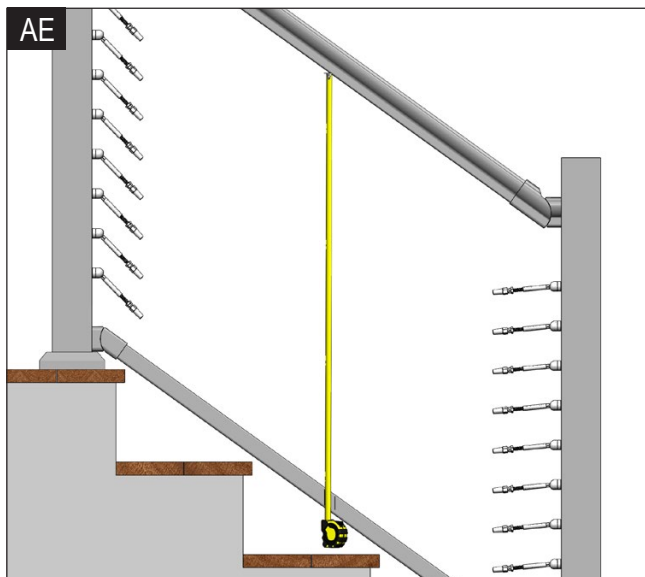


Mark a center line in between the marks on the bottom rail and transfer this center line onto the top rail using a level (See Figure AC).

Use a square to transfer a center mark onto the underside of the top rail and the top and underside of the bottom rail (See Figure AD).

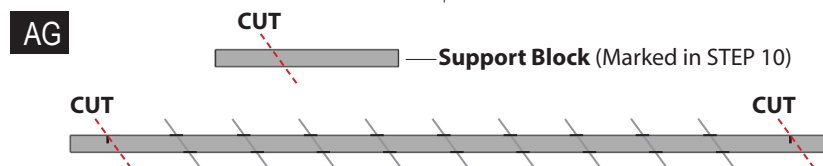
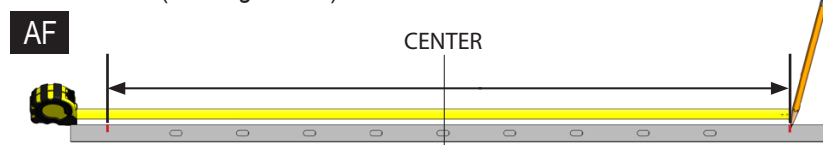
These marks indicate the location of screw holes for the connectors.





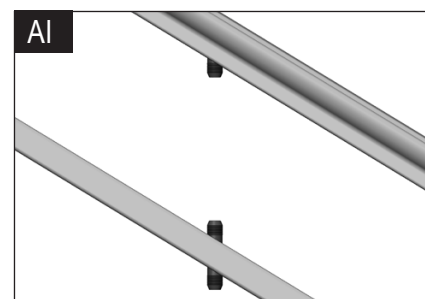
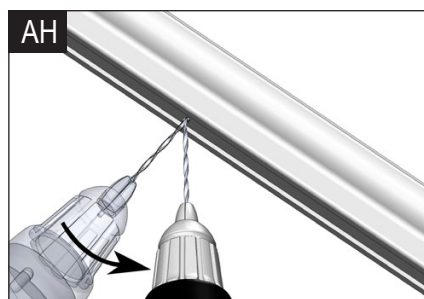
11. Measure & Cut the Stabilizer and Support Block:

Measure between the Top and Bottom rails on the center line (See Figure AE). Transfer this measurement onto the Stabilizer making sure to center your tape measure on the Stabilizer (Component H) (See Figure AF). With the Stabilizer and the Support Block marked, set the saw to match the angle degree of your stairs and cut them to length. **Make sure the offset cable slots in the Stabilizer match the direction of your angled end cuts** (See Figure AG).

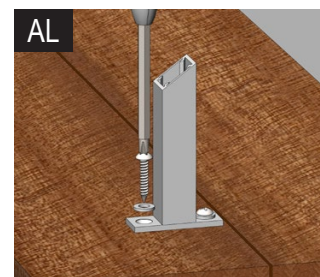
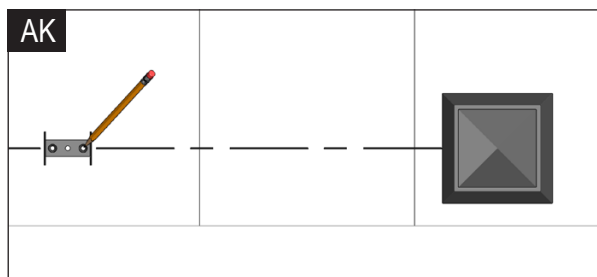
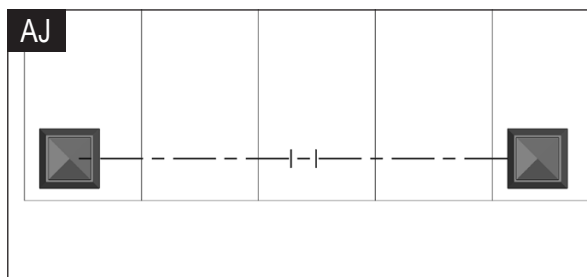


12. Pre-Drill and Install the Connectors onto the Rails:

Using an 1/8" drill bit, drill straight while gradually working the drill bit to vertical to complete each hole on the underside of the top rail and top of the bottom rail (See Figure AH). **REMOVE THE RAILS.** Drill the underside of the bottom rails in the same manner. Install the Connectors (Component J) using the supplied #8 screws (See Figure AI).



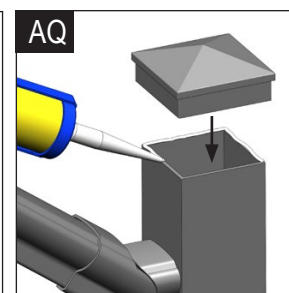
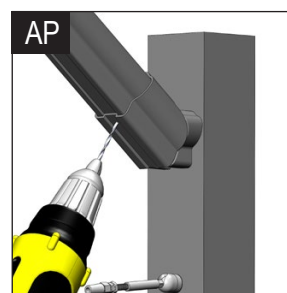
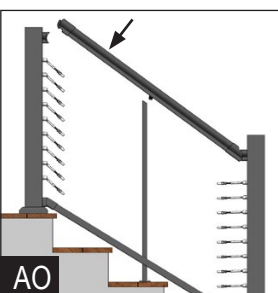
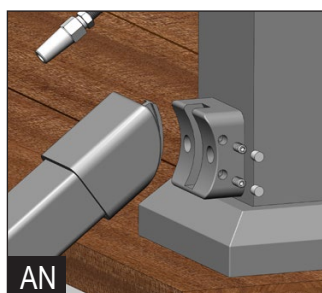
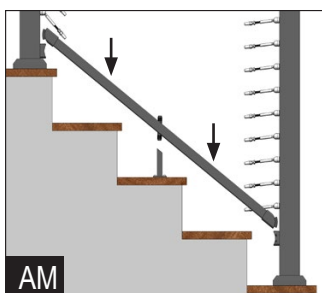
13. Install the Support Block: Measure and mark a center line on the stair tread for the support block. This line should be in line with the center of the stair posts (See Figure AJ). Position the Support Block Base and mark the hole placement onto the center line (See Figure AK). Pre-drill the holes with an 1/8" drill bit and install the Support Block Base making sure the Plastic Gasket and Washers are used (See Figure AL).



14. Install the Rails and Stabilizer: Repeat **STEP 9** to install the Bottom Rail making sure to insert the connector on the underside of the bottom rail into the top of the support block (See Figure AM). Tighten the Set Screws on the side of the rail bracket bases and install the Set Screw Covers (Component O) (See Figure AN). Install the Stabilizer onto the connector on the top of the bottom rail. Repeat **STEP 9** to install the Top Rail making sure to insert the connector on the underside of the top rail into the top of the stabilizer (See Figure AO). Tighten the Set Screws on the side of the rail brackets and install the Set Screw Covers (See Figure AN).

15. Predrill the underside of the Top Stair Rail Brackets with an 1/8" drill bit and install the #10 Self-Drilling Screws to secure the top rail to the rail brackets (See Figure AP).

16. Install the Post Caps: Apply a bead of silicone on the top edge of posts and set the Post Caps (Component W) firmly into place (See Figure AQ).



RUN THE CABLE

17. Determine the Cable Lengths for Each Section:

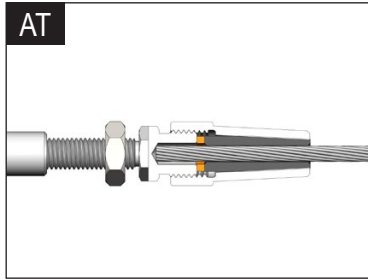
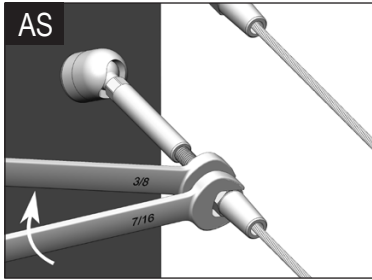
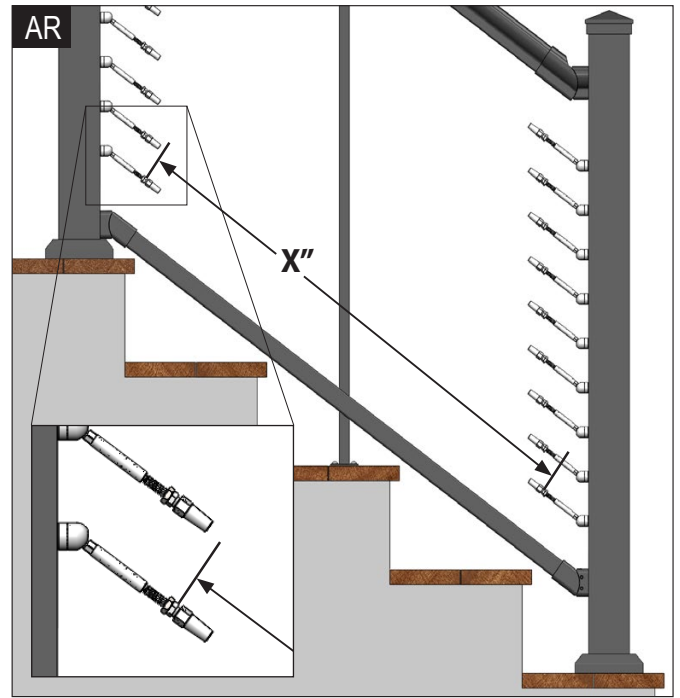
With the Threaded Stud on each tensioner extended $\frac{3}{4}$ " (For cable runs over 20 feet, extend the threaded stud an additional $\frac{1}{4}$ " for each additional 10 feet), measure the distance from "Receiver Cone to Receiver Cone" on opposing tensioners for each section (See Figure AR). This measurement is the "cut to" length for the cable in each section.

18. Cut and Install the Bottom Cable Run for Each Section:

WE RECOMMEND INSTALLING THE BOTTOM CABLE RUN FOR EACH SECTION BEFORE CUTTING ALL OF THE CABLES FOR YOUR ENTIRE PROJECT. Using the measurements from **STEP 17** for each cable run section, cut the cable for the "bottom run" in each cable run section.

Attach the cable end to the Tensioner at the bottom of the Top Stair Post. Insert the cable into the receiver cone while twisting the cable opposite the lay of the wire strands. Fully tighten the receiver cone using $\frac{7}{16}$ " and $\frac{3}{8}$ " open wrenches. The wedge inside will crimp down on the cable (See Figures AS & AT).

Run the cable through each Stabilizer and Mid Post toward the Bottom Stair Post of the cable run section. **REPEAT** the step above to attach the cable end to the Tensioner at the bottom of the Bottom Stair Post.



19. Cut and Install the Remaining Cable Runs for Each Section:

If you find that the cable length was **too short or too long** on the bottom cable run, determine the necessary adjustment needed to be made to the cable length. Cut a new length to the proper size and repeat the steps above to install it.

Now that the bottom cable runs are installed successfully, cut the additional cable lengths for each section and repeat the process in **STEP 18** above for installing the remaining cable runs.

TENSION THE CABLE

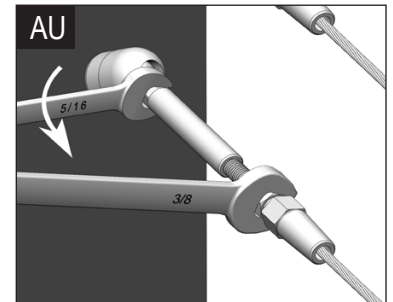
DO NOT TENSION CABLES UNLESS THE FRAMEWORK OF THE NOVA II SYSTEM IS COMPLETED. THE POSTS MUST BE INSTALLED SECURELY TO THE MOUNTING STRUCTURE AND THE TOP & BOTTOM RAILS MUST BE SECURELY ATTACHED TO THE POSTS.

20. The Tensioning Method:

Hand tighten the tensioners **equally** on both sides of the cable run. Holding the tensioner stud in a fixed position with a $\frac{3}{8}$ " wrench, rotate the tensioner body with a $\frac{5}{16}$ " wrench to apply tension (See Figure AU).

21. Tension the Center Cable:

Beginning with the center run of cable, use the "tensioning method" until the cable is snug. **DO NOT over-tension!**



22. Tension the Remaining Cables:

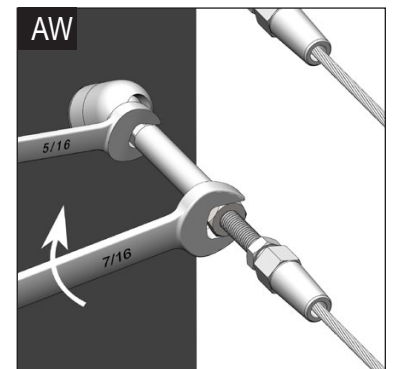
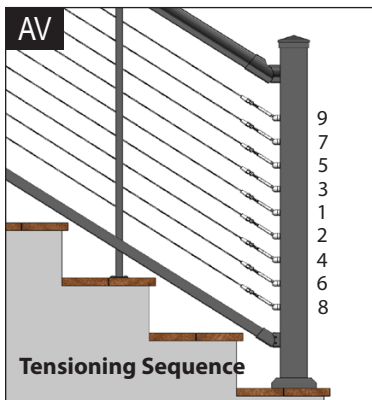
Repeat STEP 20 to tension the rest of the cables. **WORK AWAY FROM THE CENTER CABLE RUN** (See Figure AV).

23. Make Final Adjustments to the Cable Tension:

Make sure all cables are tight and relatively equal in tension.

24. Tighten the Lock Nuts on the Tensioners:

With all of the cables tensioned properly, tighten the tensioner lock nuts. Use a $\frac{5}{16}$ " wrench to hold the tensioner body in a fixed position while tightening the lock nut using a $\frac{7}{16}$ " wrench (See Figure AW).

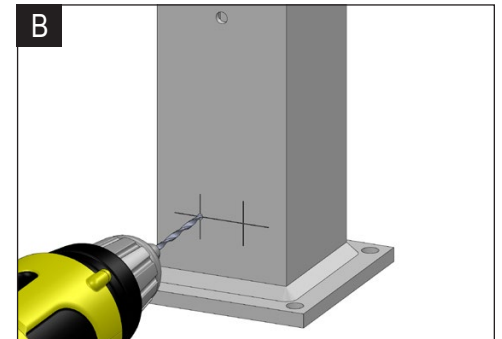
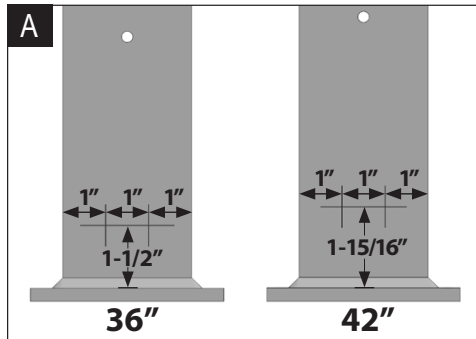


Confirm the Contents of Packaging: Make sure to verify that the system components for your order are present.

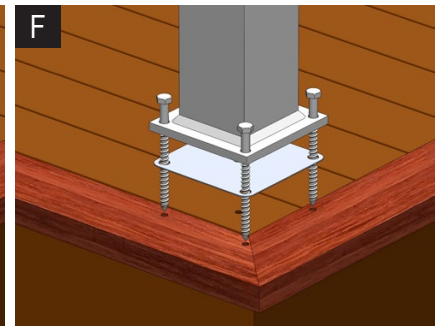
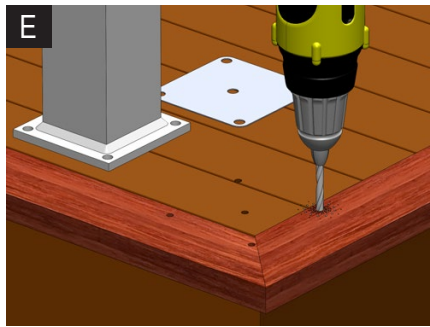
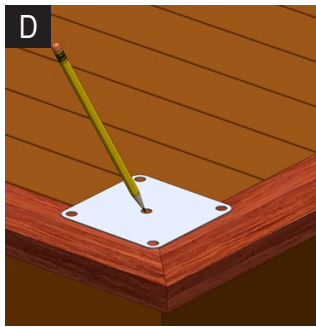
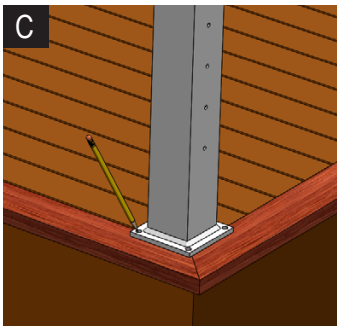
INSTALL THE POSTS

1. Gather the Posts and Position them in their General Locations per your Plan Layout.

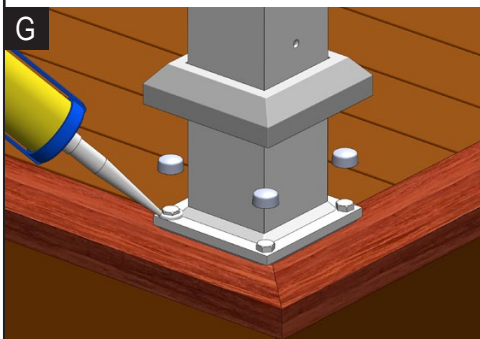
2. Mark and Pre-Drill the Posts for Bottom Rail Brackets: Mark Posts with a pencil and drill pilot holes with a $\frac{5}{32}$ " drill bit (See Figures A & B).



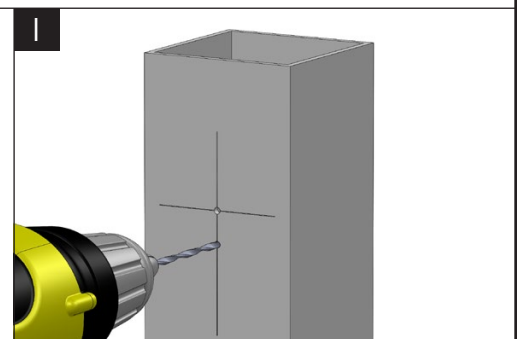
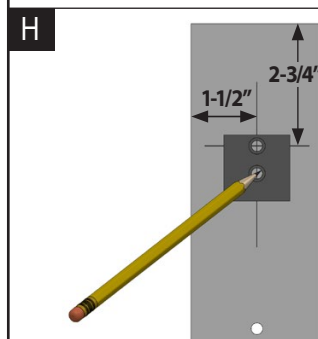
3. Mount the Posts: Keep in mind it is critical that the mounting hardware penetrate into the structure in accordance with local building codes. Position all Posts making sure the holes for cable and fittings are oriented correctly. Mark the location of mounting holes and the center hole of the Post Pad (Component AT). Pre-drill using a $\frac{1}{4}$ " drill bit (See Figures C, D & E). Use the Lag Bolts (Component AU) to anchor the Posts (See Figure F). **Make sure the Posts are installed plumb. Use Post Shims, if necessary.**



4. Install the Plastic Cover Nuts and Post Skirts: Use silicone caulk on the Lag Bolt heads before installing the Plastic Cover Nuts (Component AV) (See Figure G). **DON'T FORGET** to install the Post Skirts (Component AS).

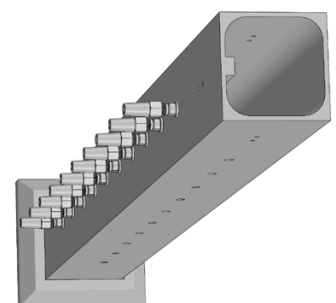
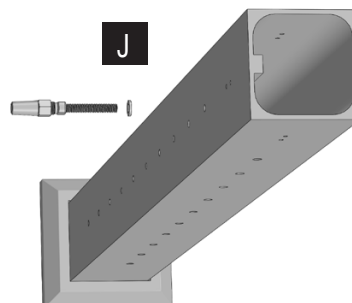


5. Pre-Drill the Mid Posts for Top Rail Brackets: If a Universal Post (Component AQ1 or AQ2) is being used as a Mid Post versus an End Post, holes must be pre-drilled on one side for mounting the Top Rail Brackets (Component AC). You will notice that the post is already pre-drilled on one side. Measure and mark each post. Using the Bracket Key (Component AD), mark the bottom hole (See Figure H). Pre-drill holes using a $\frac{5}{32}$ " drill bit (See Figure I).



6. Install the NOVA II Studs on the Corner Posts: Locate the side of the Corner Post (Component AR1 or AR2) with the threaded post holes. Making sure to use the Plastic Washer (Component AX) in between the NOVA II Stud and the Post, thread the NOVA II Studs (Component AW) into the threaded holes in the Corner Post (See Figure J).

NOTE: If using A0906-CW Corner Posts (where cable passes through the post), NO cable hardware is required.



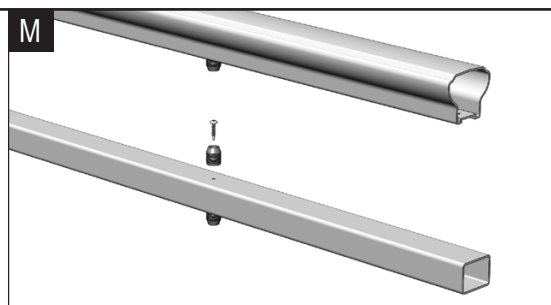
INSTALL THE RAILS

- 7. Measure and Cut the Rails (if necessary):** To ensure the centering of the Cable Stabilizer (Component AM or AN), trim must always be taken from both ends of the Rails (See Figure K). To account for the Top Rail Brackets take an extra $\frac{5}{8}$ " off each end of the Top Rail (Component AA) (See Figure L). Mark the Rails and cut using a miter saw with a non-ferrous carbide tipped blade.



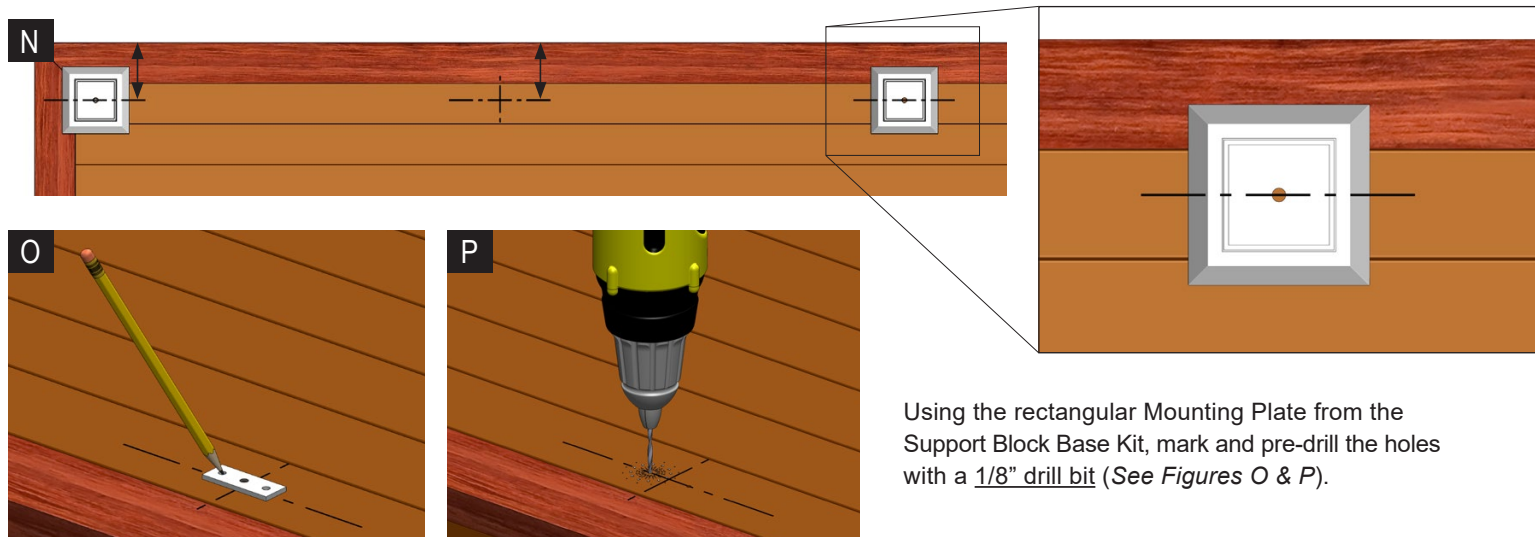
- 8. Install the Stabilizer and Support Block Connectors**
(If your Rail Section is UNDER 4 FEET, you DO NOT need to install the Support Block and Stabilizer. Skip to STEP 12)

Locate the pre-drilled holes in the middle of the underside of the Top Rail and on the top and underside of the Bottom Rail (Component AB). Using the #8 self-drilling screws, the Square Driver Bit (Component AO) and a power drill, install the Stabilizer and Support Block Connectors (Component AH) on the Top and Bottom Rails (See Figure M).



- 9. Mark and Pre-Drill for the Support Block Base Kit:**

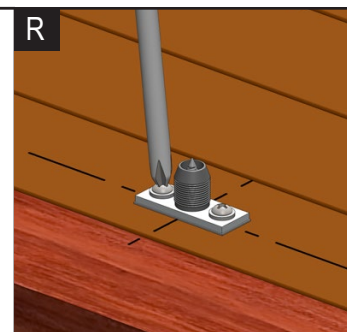
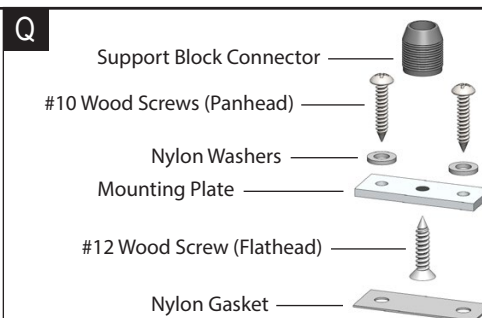
Measure and mark a center line on the deck to indicate the center between Posts. Measure from the edge of the deck to the center of the Posts and transfer this measurement onto the deck by marking a line that intersects the center line between Posts. This is where the location of the Support Block Base Kit (Component AJ) is to be installed (See Figure N).



Using the rectangular Mounting Plate from the Support Block Base Kit, mark and pre-drill the holes with a $\frac{1}{8}$ " drill bit (See Figures O & P).

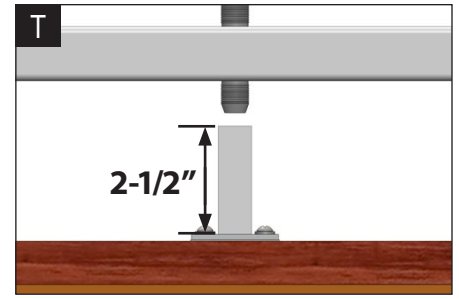
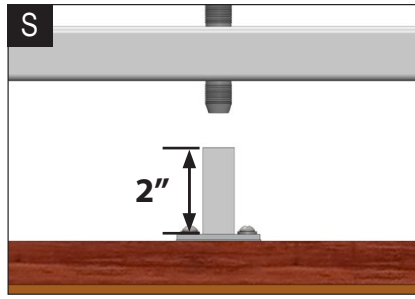
- 10. Assemble and Install the Support Block Base Kit:**

Assemble the Support Block Base Kit as shown (See Figure Q). Making sure the Nylon Gasket is between the Mounting Plate and the mounting surface, install the Support Block Base Kit using (2) #10 Wood Screws and Nylon Washers (See Figure R).



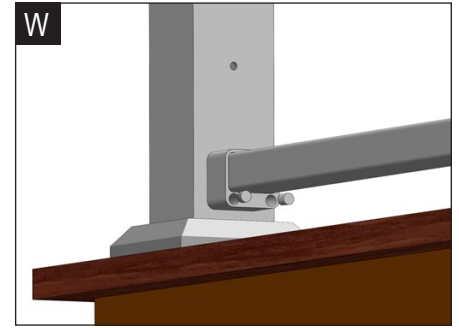
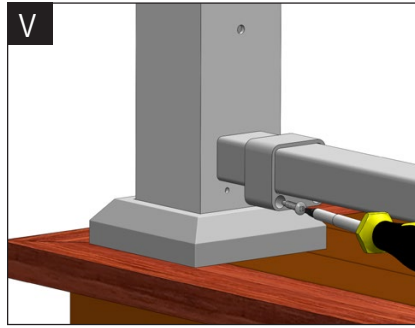
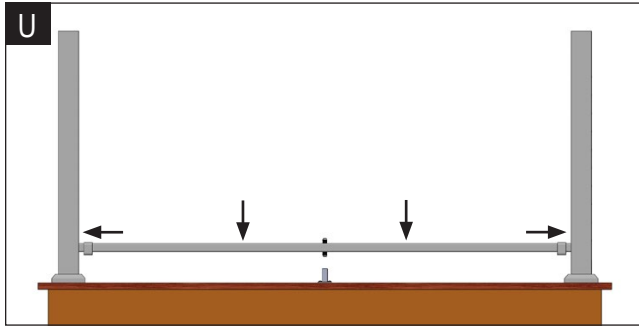
11. Cut and Install the Support Block:

For a 36" post (actual post size is 38"), the Support Block (Component AL) should be cut to 2" (See Figure S). **For a 42" post** (actual post size is 44"), the Support Block should be cut to 2-1/2" (See Figure T). Measure and mark the Support Block, then cut using a miter saw with a non-ferrous carbide tipped blade. Insert the Support Block onto the Support Block Connector.



12. Install the Bottom Rail:

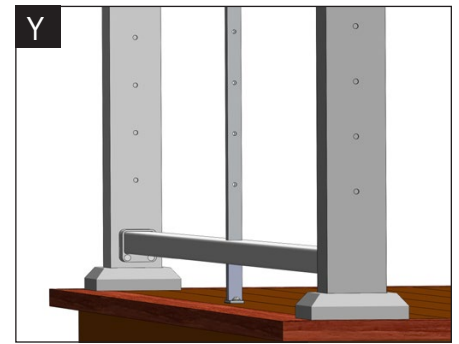
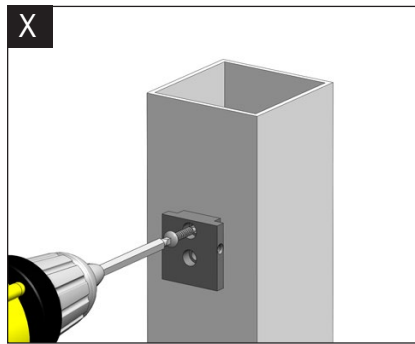
Slide the Bottom Rail Brackets (Component AF) over each end of the Bottom Rail (See Figure U). The counter bore holes must be toward the center of the rail section. Install the Bottom Rail, using #10 Self-Drilling Screws (Component AI) (See Figure V). Install the Screw Covers (Component AG) (See Figure W).



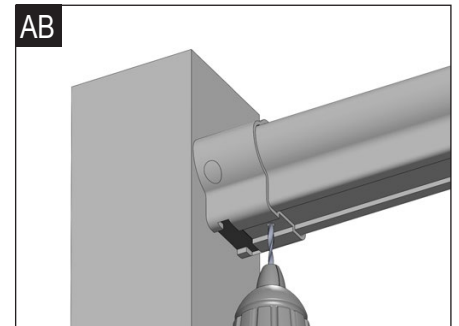
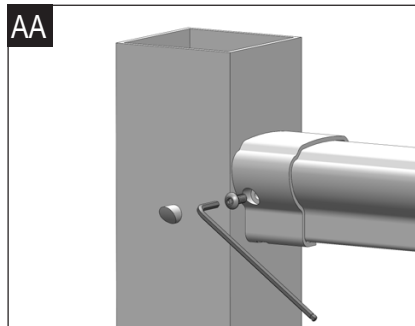
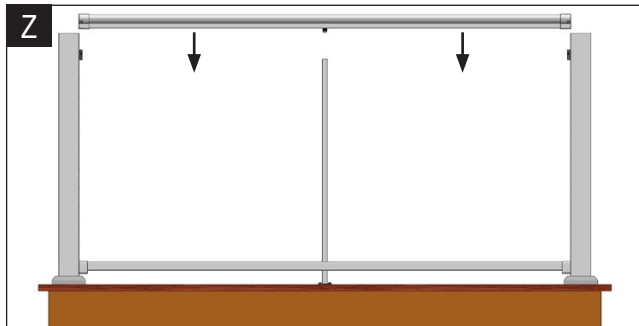
13. Install the Top Rail and Cable Stabilizer:

Install the Bracket Key with the counter bore holes facing out from the post using #10 Self-Drilling Screws (See Figure X).

Insert the Cable Stabilizer over the Connector on the top of the Bottom Rail making sure the holes in the Cable Stabilizer are aligned with the holes on the posts (See Figure Y). **For 36" railing systems**, use the Cable Stabilizer included in the rail section kit. **For 42" railing systems**, use the Cable Stabilizer (Component AN) that was supplied separately.

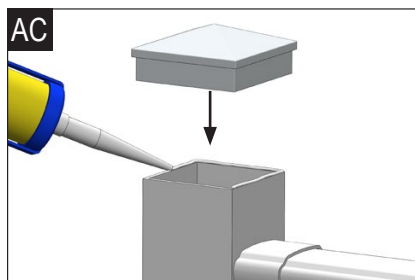


Slide the Top Rail with mounting brackets on each end over the installed Bracket Keys as you insert the Connector on the bottom of the Top Rail into the Cable Stabilizer (See Figure Z). Install the supplied Button Head Screws (Component AK) into the holes on the sides of Top Rail Brackets using an 1/8" Allen wrench and install the Angled Screw Covers (Component AE) (See Figure AA). Using a 5/32" drill bit, drill a hole through the bottom of the Top Bracket and Rail. Install the #10 Self-Drilling Screw (See Figure AB).



14. Install the Post Caps:

Apply a bead of silicone on the top edge of Posts and set the Post Caps (Component AP) firmly into place (See Figure AC).



INSTALLING ANGLED RAILING SECTIONS

To accommodate railing sections that are at an angle of 45 degrees or less to the straight sections on your level deck surface, use the Adjustable Rail Bracket Kit (A0906-0075).

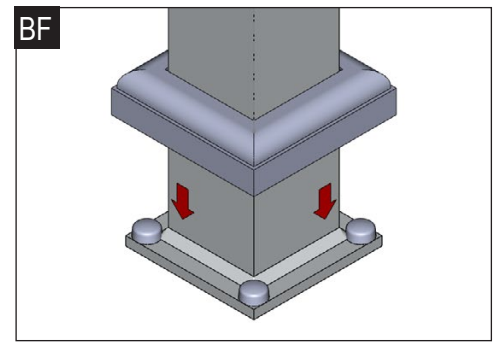
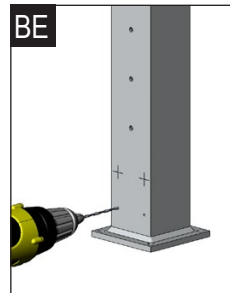
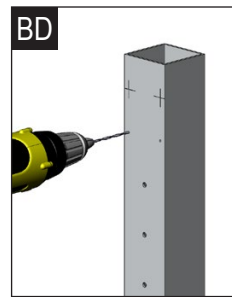
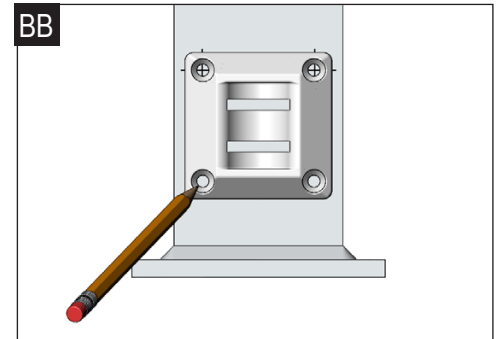
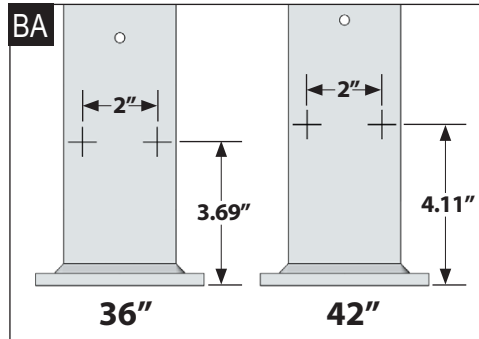
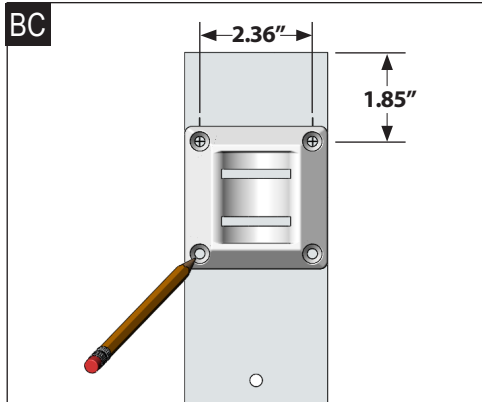
INSTALL THE POSTS

15. Before you drill the posts:

Make sure the pre-drilled holes for the cable are in-line with your straight rail section. Each post is pre-drilled on one side for the TOP Straight Rail Bracket. Make sure that this side faces your straight rail section.

16. Mark and Pre-Drill the Posts for Adjustable Rail Brackets:

Mark Posts with a pencil (See Figures BA & BC). Using the Adj. Rail Bracket Bases, mark the bottom holes (See Figures BB & BC). Drill pilot holes with a 5/32" drill bit (See Figures BD & BE).



17. Mount the Posts following "LEVEL SECTIONS: Steps 3 & 4" on page 11. **DON'T FORGET** to install the Post Skirts after (See Figure BF).

INSTALL THE ANGLED RAILS

18. Determining the Rail Lengths:

Match the angle of your adjustable rail bracket (A0906-0075) to the angle of your rail section and lock the rail bracket in place by tightening the machine screws on the back of the rail bracket base (See Figure BG).

Use #10 Self-Drilling Screws to "temporarily" mount the adjustable rail brackets to the posts (See Figure BH).

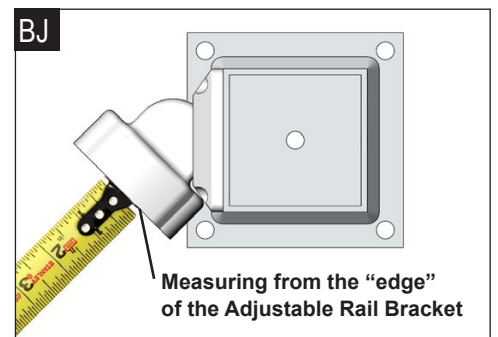
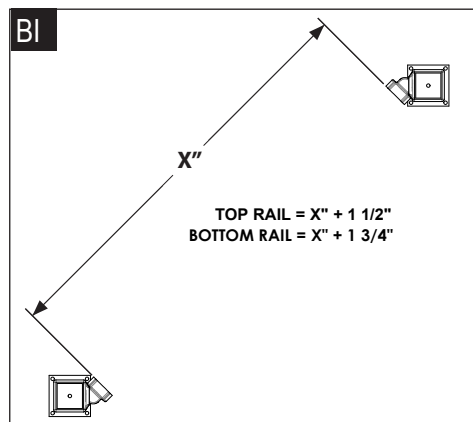
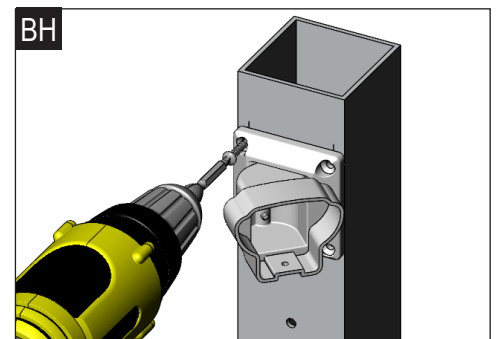
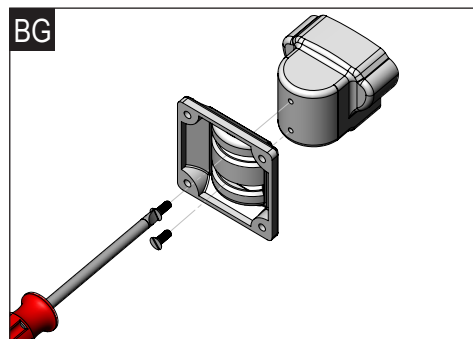
Measure the distance from "edge to edge" on opposing top rail brackets and opposing bottom rail brackets for each section. Use the formulas below to figure out the "cut to" lengths for each (See Figures BI & BJ).

Top Rail

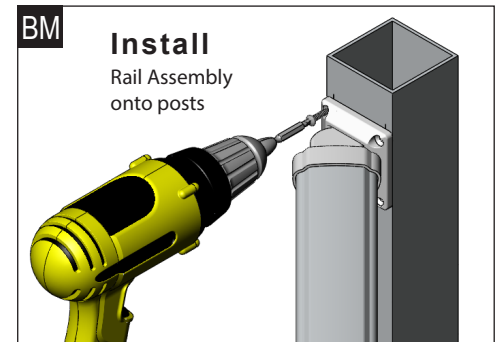
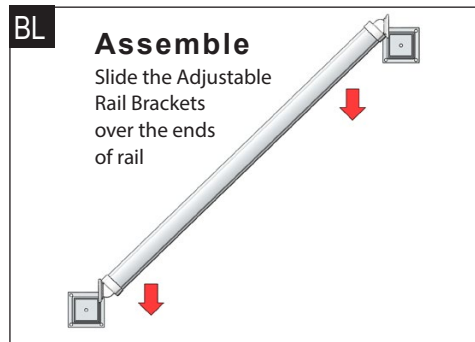
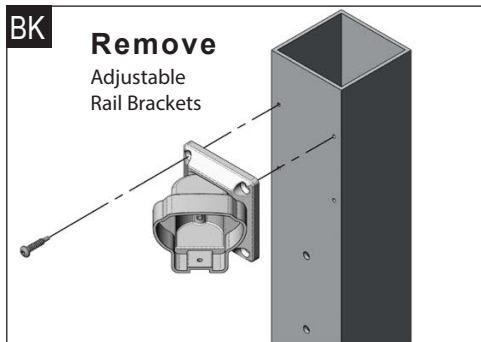
ADD 1-1/2" to your measurement

Bottom Rail

ADD 1-3/4" to your measurement



- 19. Cut the Rails to Length:** To ensure the centering of the Cable Stabilizer (Component AM or AN) and the pre-drilled holes in the top & bottom rails, trim must always be taken equally from both ends of each rail. Using the measurements from Step 18 (on page 14), mark the rails and cut using a miter saw with a non-ferrous carbide tipped blade.
- 20. Install the Stabilizer Connectors and Support Block Connector following “LEVEL SECTIONS: Steps 8 - 11” on pages 12-13.**
If your Rail Section is UNDER 4 FEET, you DO NOT need to install the Support Block and Stabilizer.
- 21. Install the Bottom Rail (DON'T FORGET to install the Post Skirts before installing the rails):**
 With the adjustable bottom rail brackets set to the angle degree of the rail section, remove the brackets from the posts and slide them over each end of the Bottom Rail (See Figure BK & BL). Install the Bottom Rail, using #10 Self-Drilling Screws (Component AI) to once again secure the rail brackets to the posts (See Figure BM).
- 22. Install the Top Rail (and Cable Stabilizer, if necessary):**
 Insert the Cable Stabilizer over the Connector on the top of the Bottom Rail making sure the holes in the Cable Stabilizer are aligned with the holes on the posts. **For 36” railing systems,** use the Cable Stabilizer included in the rail section kit. **For 42” railing systems,** use the Cable Stabilizer (Component AN) that was supplied separately.
- With the adjustable top rail brackets set to the angle degree of the rail section, remove the brackets from the posts (See Figure BK). Slide the adjustable Top Rail brackets over each end of the top rail (See Figure BL). Install the top Rail, using #10 Self-Drilling Screws (Component AI) to once again secure the rail brackets to the posts (See Figure BM).



INSTALL THE CABLE FITTINGS

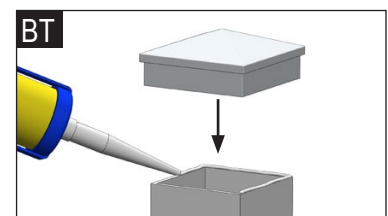
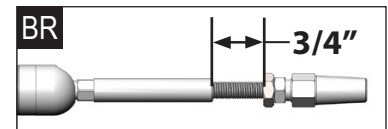
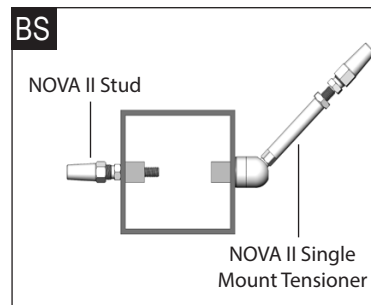
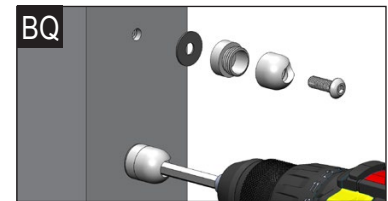
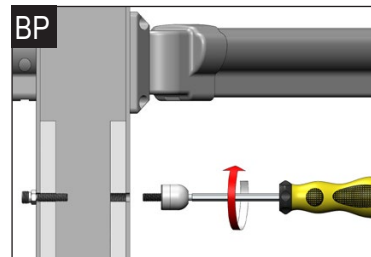
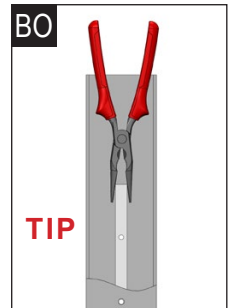
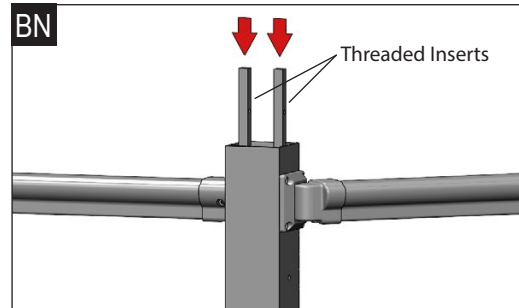
Each post requires (2) threaded inserts on the inside of the post to serve as a backing plate for attaching cable fittings (Fig. BN).

TIP: Use a long pair of needle-nose pliers to hold the threaded insert in place while threading the first few fasteners into it (Fig. BO)

- 23. On the “ANGLED” section post face, install the NOVA Single Mount Tensioners:** Dissassemble the tensioners by removing the Threaded Stud and unscrewing the Base Cover. Reassemble the tensioner bases making sure to insert the 1/4”-28 UNF machine screw (P0906-0030) before threading on the Base Cover. Install the tensioner bases to the posts using the Plastic Gasket in between the post and mounting base (See Figures BP & BQ). The slot on the tensioner base should aim in the direction that the tensioner body will be angled. Reassemble the tensioners leaving 3/4” of thread exposed (See Figure BR). For cable runs over 20 feet, extend the threaded stud an additional 1/4” for each additional 10 feet.

- 24. On the “STRAIGHT” post face, install the Nova II 1/8” Studs:** Install the NOVA II Studs to the post by threading the studs into the insert on the inside off the post. Make sure to use the Plastic Gasket in between the post and base of the stud (See Figure BS).

- 25. Install the Post Caps:**
 Apply a bead of silicone on the top edge of Posts and set the Post Caps (Component AP) firmly into place (See Figure BT).



RUN THE CABLE

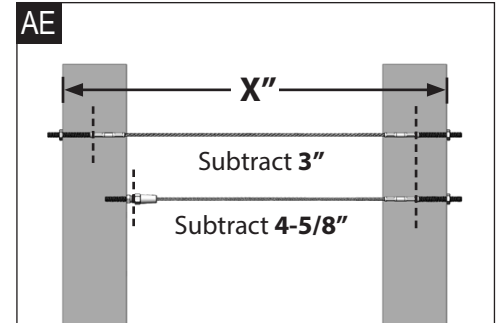
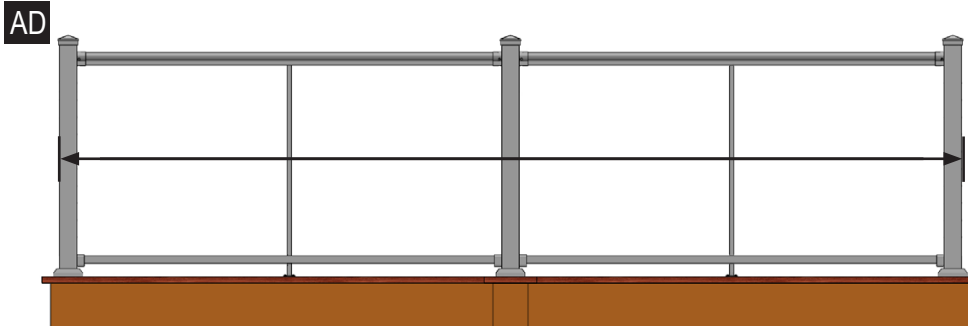
- 26. Determine the Cable Lengths for Each Section:** Measure from “outside to outside” of the outer posts for each cable run section (See Figure AD). Follow the steps below to find the “cut to” length for each cable run section.

HandiSwage Stud to HandiSwage Stud

For cable run sections where HandiSwage Studs will be used on both ends of cable runs, **subtract 3”** (See Figure AE).

NOVA II Stud to HandiSwage Stud

For cable run sections where a Corner Post using NOVA II Studs is present, **subtract 4-5/8”** (See Figure AE).



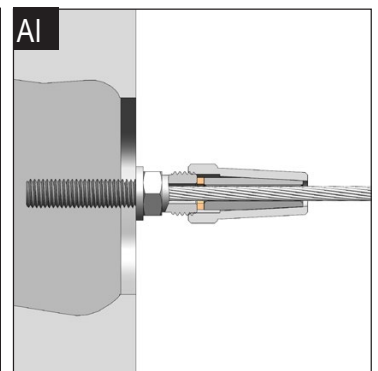
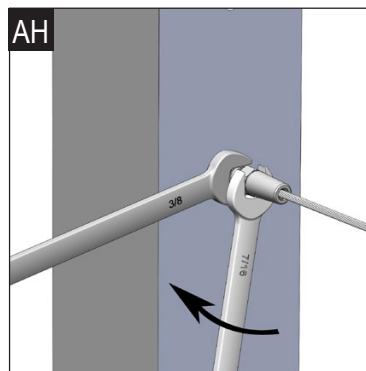
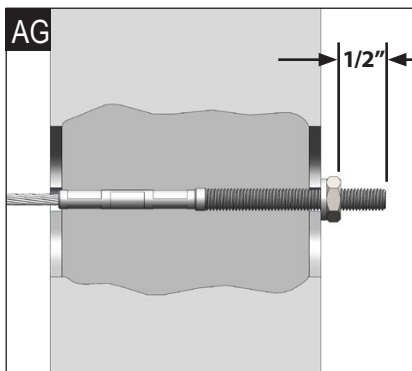
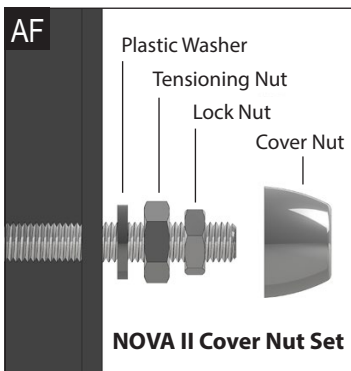
- 27. Cut and Install the Bottom Cable Run for Each Section:** WE RECOMMEND INSTALLING THE BOTTOM CABLE RUN FOR EACH SECTION BEFORE CUTTING ALL OF THE CABLES FOR YOUR ENTIRE PROJECT. Using the measurements from **STEP 26** for each cable run section, cut the cable for the “bottom run” in each cable run section.

For Straight cable run sections where HandiSwage Studs will be used on both ends of cable runs, hand swage a HandiSwage Stud onto one end of the cable following the hand swage tool instructions. Insert the stud through the bottom post hole. Locate the NOVA II Cover Nut Set and identify each component (See Figure AF). Install the Plastic Washer and hand tighten the Tensioning Nut onto the stud, leaving a 1/2” of thread exposed (See Figure AG).

Run the cable through each Cable Stabilizer and Mid Post toward the opposite post of the cable run section. Hand swage a HandiSwage Stud to the cable end. Insert the stud (threaded end first) through the post, install the Plastic Washer and hand tighten the Tensioning Nut onto the stud (See Figure AG). This should leave about a 1/2” of thread exposed.

For sections using “A0906-C036 & -C042” Corner Posts (utilizes fixed / tensioning hardware), attach the cable end to the NOVA II Stud at the bottom of the Corner Post. Insert the cable into the receiver cone while twisting the cable opposite the lay of the wire strands. Fully tighten the receiver cone using 7/16” and 3/8” open wrenches (See Figure AH). The wedge inside will crimp down on the cable (See Figure AI).

Run the cable through each Cable Stabilizer and Mid Post toward the opposite post of the cable run section. Following the hand swage tool instructions, hand swage a HandiSwage Stud to the cable end and insert it through the post. Locate the NOVA II Cover Nut Set and identify each component (See Figure AF). Install the Plastic Washer and hand tighten the Tensioning Nut onto the stud (See Figure AG). This should leave about a 1/2” of thread exposed.



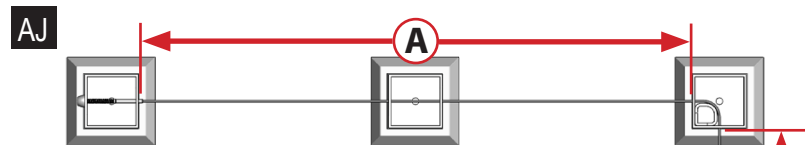
- 28. Cut and Install the Remaining Cable Runs for Each Section:** If you find that the cable length was **too short or too long** on the bottom cable run, determine the necessary adjustment needed to be made to the cable length. Cut a new length to the proper size and repeat the steps above to install it.

Now that the bottom cable runs are installed successfully, cut the additional cable lengths for each section and repeat the process in the steps above for installing the remaining cable runs.

- 29. For sections using “A0906-CW36 & -CW42” Corner Posts** (cables pass through), the total length of a cable run passing through the Corner Post MUST NOT EXCEED 50 FEET and the cable run MUST HAVE A TENSIONING STUD ON EACH END OF THE CABLE. (See Figure AJ)

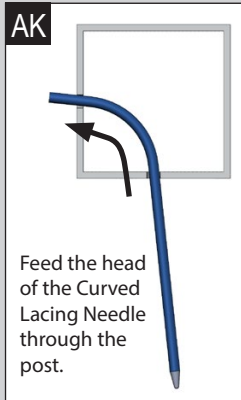
We recommend measuring and cutting ONE of the cable rows to an “approximate” length per the instructions. Follow **Steps A through E** to insure that the cable length is long enough. Once this is confirmed, you can cut all of the cable runs to this length.

- A. Determine the “approximate” length of the cable** by measuring from the Corner Post to the face of each End Post. ADD the two lengths together PLUS an extra 8” to find the “cut to” length for your cable. Refer to the formula and illustration (on right).

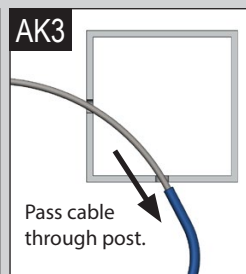
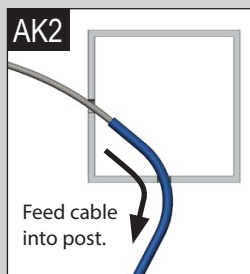
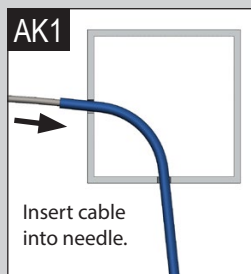


A Length + B Length + 8” = Approximate Cable Length

- B. Start at one of the End Posts and pass the cable through the Mid Posts and Cable Stabilizers until you reach the Corner Post.** Remove Insert from the Corner Post (if present).



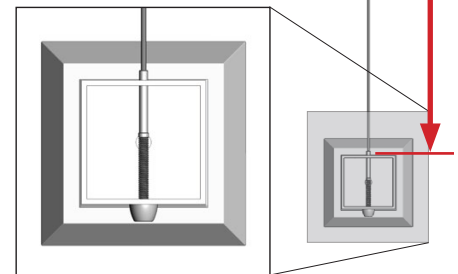
Using the Curved Lacing Needle (C0988-400C-2), pass the cable through the Corner Post by lacing the cable through one hole and out the other (See Figures AK, AK1, AK2 & AK3).



50 FT. MAXIMUM

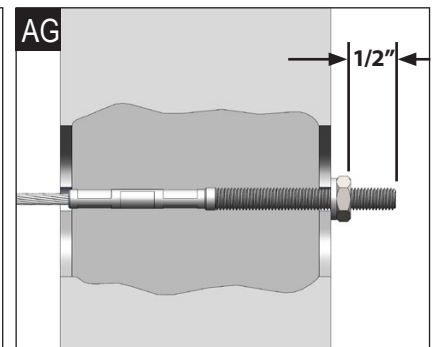
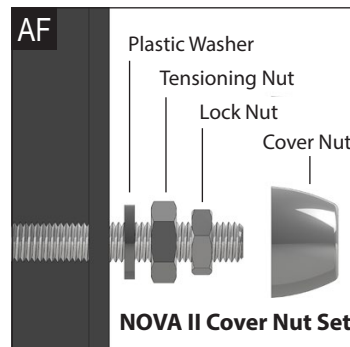
For total length (End Post to End Post) of cable run that passes through a Corner Post.

MUST HAVE tensioning device on each end of the cable run.



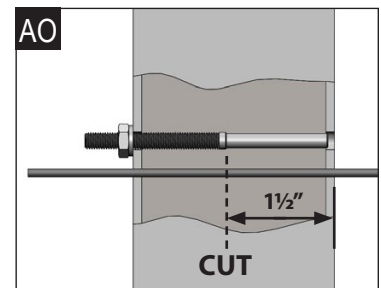
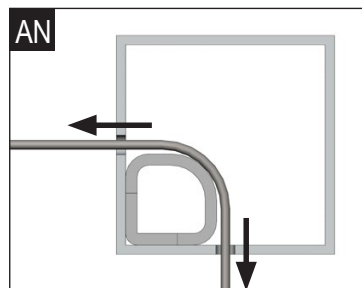
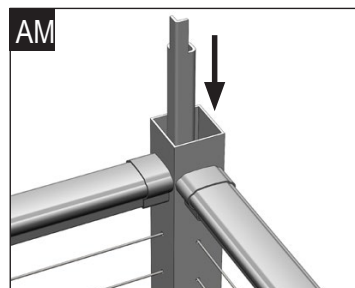
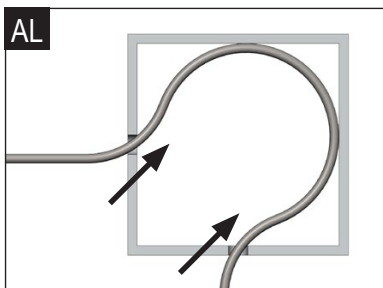
- C. Continue to pass the cable through the Mid Posts and Cable Stabilizers (if present) until you reach the opposite End Post.**

- D. Following the hand swage tool instructions, hand swage the HandiSwage Studs onto the end of the cable. Insert the stud through the End Post. Locate the NOVA II Cover Nut Set and identify each component (See Figure AF). Install the Plastic Washer and hand tighten the Tensioning Nut onto the stud, leaving a 1/2” of thread exposed (See Figure AG).**



- E. Install the Insert into the Corner Post by following these steps. First, force the cable to bend into place inside the corner post so that it is out of the way (See Figure AL). Place the Insert into the post on the inside corner with the curved side of the insert facing the cable (See Figure AM). Pull the cable into place making sure that it follows the curve of the Insert (See Figure AN). Pull the cable taught to the opposite End Post. The cable should extend beyond the End Post (See Figure AO).**

- F. Mark and Cut the cable to the “exact” length using the measurement shown below (See Figure AO). Hand swage the HandiSwage Studs onto the cable ends following the hand swage tool instructions and insert them through the post. Locate the NOVA II Cover Nut Sets and identify each component (See Figure AF). Install the Plastic Washers and hand tighten the Tensioning Nuts onto the studs (See Figure AG). This should leave about a 1/2” of thread exposed.**



TENSION THE CABLE

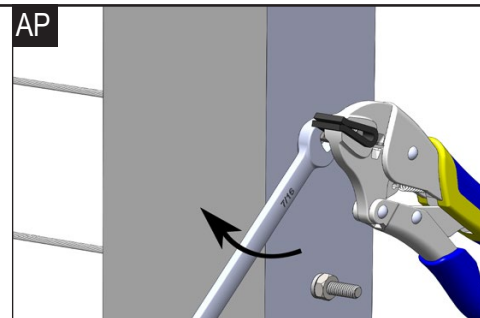
DO NOT TENSION CABLES UNLESS THE FRAMEWORK OF THE NOVA II SYSTEM IS COMPLETED. THE POSTS MUST BE INSTALLED SECURELY TO THE MOUNTING STRUCTURE AND THE TOP & BOTTOM RAILS MUST BE SECURELY ATTACHED TO THE POSTS.

30. The Tensioning Method:

Using a Cable Grip Pad with vice grips, hold the stud or cable in a fixed position and turn the Tensioning Nut with a 7/16" wrench to apply tension (See Figure AP).

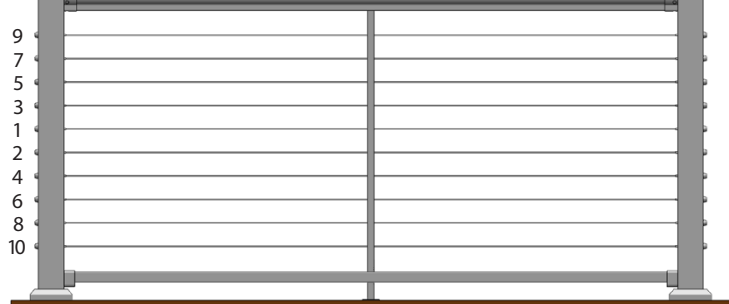
31. Tension the Center Cable:

Beginning with the center run of cable, use the "tensioning method" and tighten the nut until the cable is snug. **DO NOT over-tension!**



AQ

Tensioning Sequence



32. Tension the Remaining Cables:

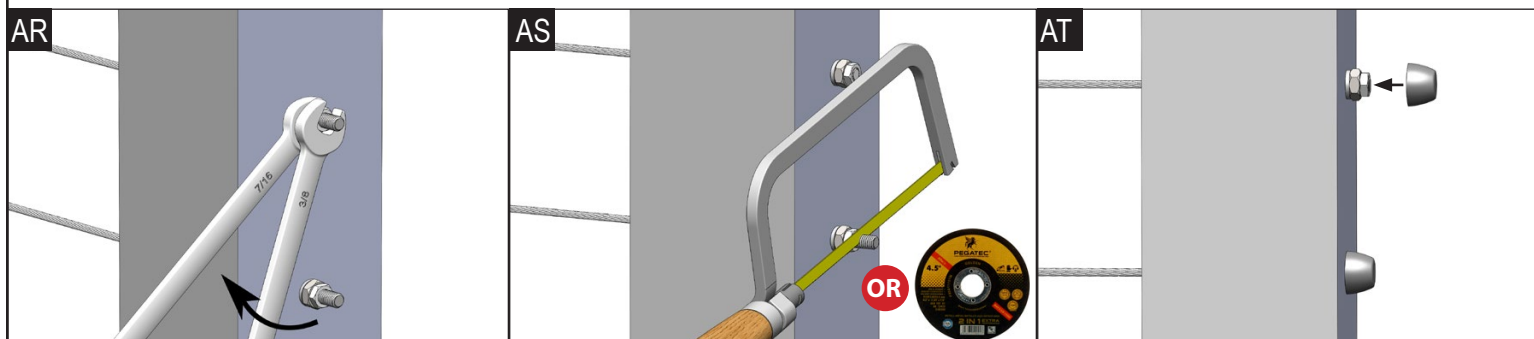
Tension the rest of the cables by tightening the nuts until the cable is snug. WORK AWAY FROM THE CENTER CABLE RUN (See Figure AQ).

33. Make Final Adjustments to the Cable Tension:

Make sure all cables are tight and relatively equal in tension.

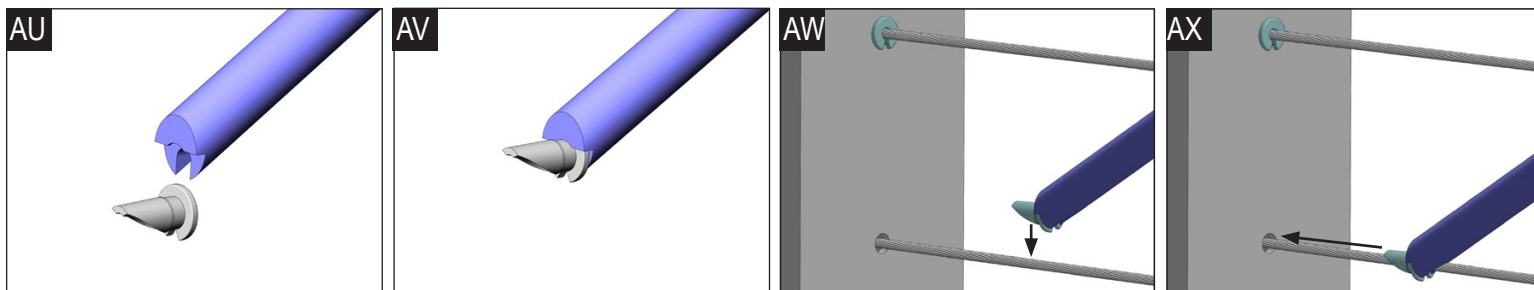
34. Install the Lock Nuts and Cover Nuts: With all of the cables tensioned properly, hand tighten the Lock Nuts onto the stud ends. With a 7/16" wrench holding the Tensioning Nut in place, tighten the Lock Nut using a 3/8" wrench (See Figure AR).

Using a hacksaw OR our Cutting Disk (E0113-CD04-2), cut the stud ends flush with the outer side of the Lock Nuts (See Figure AS). **BE CAREFUL NOT TO SCRATCH OR DAMAGE THE POST WHILE CUTTING THE STUDS.** Place the Cover Nut over the assembly until it is flush with the Post (See Figure AT).



35. Install the Cable Grommets:

Using the Grommet Install Tool (Part # E0916-1000), install the Cable Grommets (Component AY) wherever cable passes through the Posts and Cable Stabilizers (See Figure AU, AV, AW & AX). There are 2 different size grommets. Make sure to use the longer ones (Part # C0916-0003-25) on Posts and the shorter ones (part # C0916-A003-25) on Cable Stabilizers.



NOVA II Post Kits, Cable Spacing & Heights

Part Number	Post Description	Cable Spacing	Actual Post Height	Rendered Rail Height	Height From Surface
A0906-0036-XX*	NOVA II Universal Post 36"	2.75"	38.00"	36"	38.00"
A0906-0042-XX*	NOVA II Universal Post 42"	2.75"	44.00"	42"	44.00"
A0906-C036-XX*	NOVA II Corner Post 36"	2.75"	38.00"	36"	38.00"
A0906-C042-XX*	NOVA II Corner Post 42"	2.75"	44.00"	42"	44.00"
A0906-CW36-XX*	NOVA II Corner Post 36" - Pass Thru	2.75"	38.00"	36"	38.00"
A0906-CW42-XX*	NOVA II Corner Post 42" - Pass Thru	2.75"	44.00"	42"	44.00"
A0906-U036-XX*	NOVA II Stair Post, Undrilled 36"	3.00"	38.00"	36"	38.00"
A0906-U042-XX*	NOVA II Stair Post, Undrilled 42"	3.00"	44.00"	42"	44.00"
A0906-SM42-XX*	NOVA II Stair Mid Post, Slotted 42"	3.00"	44.00"	42"	44.00"

NOVA II System Product Specifications

Part Number	Description	Use
Post Kits		
A0906-0036-XX*	NOVA II Universal Post 36"	36" surface mount straight post
A0906-0042-XX*	NOVA II Universal Post 42"	42" surface mount straight post
A0906-C036-XX*	NOVA II Corner Post 36"	36" surface mount corner post
A0906-C042-XX*	NOVA II Corner Post 42"	42" surface mount corner post
A0906-CW36-XX*	NOVA II Corner Post 36" - Pass Thru	36" surface mount corner post where cable passes through
A0906-CW42-XX*	NOVA II Corner Post 42" - Pass Thru	42" surface mount corner post where cable passes through
A0906-U036-XX*	NOVA II Stair Post, Undrilled 36"	36" surface mount stair post
A0906-U042-XX*	NOVA II Stair Post, Undrilled 42"	42" surface mount stair post
A0906-SM42-XX*	NOVA II Stair Mid Post, Slotted 42"	42" surface mount mid stair post
Rail & Bracket Kits		
A0906-0201-XX*	NOVA II 6' Straight Rail Section (Top & Bottom Rails)	6' straight top & bottom rails
A0906-S021-XX*	NOVA II 6' Stair Rail Section (Top & Bottom Rails)	6' stair top & bottom rails
A0906-HD01-XX*	NOVA II Straight Rail Section Hardware Kit (Top & Bottom Brackets)	Mounts straight top & bottom rails to posts
A0906-HD21-XX*	NOVA II Stair Rail Section Hardware Kit (Top & Bottom Brackets)	Mounts stair top & bottom rails to posts
A0906-0075-XX*	NOVA II Angled Rail Section Hardware Kit (Top & Bottom - 1 side)	Mounts angled top & bottom rails to posts on level sections
Cable Mounting Hardware		
C0731-H0703-2	HandiSwage™ Stud (2 pack)	Attaches to cable on level posts
C0731-H0703-10	HandiSwage™ Stud (10 pack)	Attaches to cable on level posts
C0748-0003-2	HandiSwage™ Tensioner (2 pack)	Attaches to cable on stair posts
C0748-SM03-2	NOVA Single Mount Tensioner (2 pack)	Attaches to cable on stair posts
Post Mounting Hardware		
A0908-HD10	NOVA II Post Mounting Hardware Kit	Surface mount posts on wooden surfaces
Accessories		
C0916-B003	NOVA II End/Corner Grommet (25 pack)	Used over 1/8" HandiSwage™ Studs on End/Corner Posts.
C0916-0003	NOVA II Mid Grommet (25 pack)	Used over 1/8" Cable and inserted into Mid Posts.
C0916-A003	Universal Stabilizer Mid Grommet (25 pack)	Used over 1/8" Cable and inserted into Stabilizer
A0908-TB04-10	NOVA II Tensioner Backing Disk (10 pack)	Place in between HandiSwage™ Tensioner Base and Post
C0906-XX02-10* & C0906-XX02-12*	NOVA II Cover Nut Set (10 pack or 12 pack)	Used on the end of HandiSwage™ Studs to tension and provide a finished look
Tools		
A0906-P051-XX	Touch-Up Paint	Touch-up any scratches on powdercoat finish
C0731-TK01-2	HandiSwage™ Combination Wrench Set - 3/8" & 7/16" (2 pack)	Used to install the NOVA II Cover Nut Sets
C0988-400C-2	Curved Lacing Needle (2 pack)	For lacing cable through A0906-CW Corner Posts
C0989-00HD	Cable Cutter	Cleanly cuts up to 5/32" diameter cable
E0113-CD04-2	HandiSwage™ Cutting Disks - 4-1/2" (2 pack)	Cuts the HandiSwage™ Studs flush with the lock nuts
E0113-H600	Hand Swage Tool	Crimps HandiSwage™ fittings onto cable
E0113-HG00	After Swage Gauge	Use to confirm that the "after swage" dimension is correct
E0114-0000	Cable Grip Pad (3 pack)	Use with vice grips during the cable tensioning process
E0916-1000	Grommet Install Tool	Makes installing cable grommets easy

* "XX" in the part number is the color designation. Replace with "BK" for black, "WH" for white or "BZ" for bronze.