

# Clearview® Railing System Installation Instructions for Cable or Glass Panel Infill (rev. 4/7/14)

## WHAT YOU WILL NEED:

- 24" Level
- Power drill, 3/16" drill bit
- 1/2" and 9/16" sockets
- (2) 7/16" wrenches
- Tape measure
- Small vise-grips
- 5/32" hex wrench (for glass clamps and flat top rail)
- AGS cutters and crimper (for cable)
- Masking tape
- Clean rags
- Acetone
- Caulking gun
- 'C'-clamp (for flat top rail)
- Small Phillips screwdriver (for flat top rail)

Disclaimer: AGS Stainless, Inc. has its Clearview® Railing Systems designed by a professional engineer to meet the requirements of the latest national building codes. It is the responsibility of the customer to verify compliance with local governing codes. AGS recommends having a qualified entity review or design the supporting structure to ensure it is capable of resisting the loads imparted on it by the railing system.

**Please read instructions thoroughly before beginning installation. You should also open each box and take an inventory of the contents. If the quantities do not match those on the packing list (which can be found in Box #1) notify AGS right away.**

**\*\*\*If you have any questions at any time during the installation, do not hesitate to call us.\*\*\*  
\*\*\*We are here to help. You can reach us at (888) 842-9492, Mon.-Fri. 8-430 PST.\*\*\***

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## PHASE 1 - INSTALLING THE POSTS

### **SECTION 1: SIDE MOUNT POSTS (For top mount systems, skip to Section 2)**

- 1A. Unpack and place up to ten posts, the corresponding top rail segments and infill tubes in their general area of installation per the provided drawings. This is a manageable amount of work to start with and will allow you to get familiar with the system. Begin your installation at an end post or where designated on the drawings.
- 1B. Locate the post per the dimensioned drawing and mark the location of the top mounting fastener per the detail.
- 1C. Drill a pilot hole at this point with the 3/16" drill bit.
- 1D. Position the post so that its top mounting hole is aligned with the pilot hole and install one of the 3/8" lag screws, but do not tighten fully.
- 1E. Use the level to plumb the post. Next, drill the pilot hole for the bottom mounting hole and insert a lag screw as in Step 1D. After ensuring the post is plumb in all directions, tighten the lag screws.
- 1F. If your railing system has an AGS round top rail, proceed to Phase 2: Section 3. For flat top rail or wood cap rail, repeat the steps in Section 2 until all posts are installed. Then, proceed to Phase 2: Section 4 for AGS' flat top rail; Section 4 for wood cap rail.

## SECTION 2: TOP MOUNT POSTS

- 2A. Unpack and place up to ten posts, the corresponding top rail segments and infill tubes in their general area of installation per the provided drawings. This is a manageable amount of work to start with and will allow you to get familiar with the system. Begin your installation at an end post or where designated on the drawings.
- 2B. Locate the post per the dimensioned drawing so that the edge of the base plate is parallel to the edge of the mounting surface.
- 2C. Locate the post per the drawing so that the edge of the base plate is parallel with the edge of the mounting surface. Drill a pilot hole with the 3/16" drill bit in one of the four mounting holes then install a 5/16" lag screw.
- 2D. Drill the remaining pilot holes and insert lag screws. Plumb post and tighten all of the screws.  
**TIP: Centering a shim under the base plate will facilitate plumbing the post if surface is uneven.**
- 2E. If your railing system has an AGS round top rail, proceed to Phase 2: Section 3. For flat top rail or wood cap rail, repeat the steps in Section 2 until all posts are installed. Then, proceed to Phase 2: Section 4 for AGS' flat top rail; Section 4 for wood cap rail.

## PHASE 2 – INSTALLING THE TOP RAIL

### SECTION 3: ROUND TOP RAIL (For flat top rail, skip to Section 4; for wood top rail, skip to Section 5)



**Each top rail joint has a male and a female part. Wipe down the mating surfaces with a clean rag and acetone before assembling the connection.**

- 3A. Find the proper rail component (i.e. railing segment; elbow; gooseneck) per the installation drawings. Apply a 1/8" bead of bonding agent to the inside of each open (female) end. Twist the component onto the receiving (male) sleeve to ensure an even distribution of the bonding agent.
- 3B. Take the next post (or top rail component) and, with a twisting motion, slide it into the open end of the top rail component. Then, following the steps in Section 1 or 2, secure the post (if necessary). **Note: Straight lengths of top rail will follow the pitch of the mounting surface, so leveling them is unnecessary.**
- 3C. Repeat steps in Section 1 or 2 until installation is completed. Clean off excess bonding agent with acetone.
- 3D. Proceed to Phase 3: Section 6 for cable infill; Section 7 for glass panels.

### SECTION 4: FLAT TOP RAIL

- 4A. Begin with the top rail component that corresponds to the first post(s) installed.
- 4B. Clamp the component to the post. Make sure the top rail is centered on the post cap plate. **TIP: Placing a rag between the clamp jaws and component will prevent marring the stainless steel.**
- 4C. Drill a pilot hole with the #18 drill bit provided by AGS into the underside of the top rail on the side of the post opposite the clamp. Take care to center the drill in the hole in the post cap plate. **TIP: Marking the locations of the holes at each post and then removing and flipping the top rail piece will greatly facilitate drilling.**
- 4D. Use the cutting tap provided by AGS to cut threads into the pilot hole. Apply steady pressure at low drill speed until the tap has cut threads into the hole. Install a #10-32 x 3/8" screw, taking care not to over tighten. Repeat on the other side of the post. If there is a splice, continue to Step 4E, otherwise repeat Steps 4B - 4D at the next post. **Note: Straight lengths of top rail will follow the pitch of the mounting surface, so leveling them is unnecessary.**

- 4E. Slide the two-piece splice block (patent pending), holes down, into the open end of the flat top rail component you just attached to the post.
- 4F. At the part of the splice block inside the tube, spread the two plates with two set screws.
- 4G. Slide the next component over the exposed splice block and finish the splice connection with two set screws as in Step 4F.
- 4H. Repeat Steps 4B-4G until installation is completed.
- 4I. Proceed to Phase 3: Section 6 for cable infill; Section 7 for glass panels.

## SECTION 5: WOOD TOP RAIL



**Your wood top rail should meet requirements of your local Code. Talk to your top rail provider about wood species, shapes and screw size for attachment to the post. AGS recommends a shape with a 1 ½" wide flat spot on the bottom for a nice connection at the post.**

**(Note: Hardware for attaching wood rail is not included).**

- 5A. Once your wood top rail is installed, proceed to Phase 3: Section 6 for cable infill; Section 7 for glass panels.

## PHASE 3 – INSTALLING THE INFILL

**Note: These instructions are detailed for projects with Option 1 Cable Preparation. The assemblies of Options 2 and 3 are easily installed with this information.**



**Please make sure you read the appropriate section: Section 6-I is for systems with standard fittings, Section 6-II is for systems with barrel nut assemblies.**

## SECTION 6-I: CABLES WITH STANDARD FITTINGS



**For projects with flat or wood top rail, DO NOT tighten the cables until the top rail has been secured to the posts.**

- 6A. Slide a cable all the way into a threaded fitting. Crimp the fitting half an inch from the end. Rotate the fitting 180 degrees and crimp it half an inch from the previous one. **TIP: Any fitting distortion resulting from crimping is easily straightened by tapping lightly with a rubber-headed hammer.** (If installing a stair run cable, do not attach the fitting until the cable has been threaded through the intermediate post(s) since bent fittings will not pass through angled holes. At this point, attach the fitting and go to Step 6D.)
- 6B. Feed the threaded end of the attached fitting through a full run of holes.
- 6C. Screw one 1/4" jam nut onto the fitting so that threads extend 1/8" past the nut. Screw an acorn nut on to the fitting and securely tighten it against the jam nut, locking it in place. If you have barrel nuts, screw the fitting into the nut so that there are no threads visible.
- 6D. At the other end, pull the cable taut and cut it 3/8" from the INSIDE face of the post. Attach a fitting as in Step 6A then feed it through the post.
- 6E. Screw one 1/4" jam nut (or barrel nut) onto fitting and tighten until there is just a bit of slack in the cable.
- 6F. Repeat Steps 6A-6E until all the cables have been installed.
- 6G. TIGHTENING THE CABLES
  - a. Starting at the center cable (or one of the two center cables on runs with an even number), tighten the jam nut until the slack is taken out. **TIPS: 1.) Securing the fitting with vise grips at the inside face of the post during tensioning of the cable will prevent the fitting from rotating. 2.)**

**Placing masking tape over the jaws of the vise grips will prevent marring the fitting.** Secure the nut position by tightening an acorn nut against the jam nut.

- b. From the initial cable, move up one, down two, up three, down four, etc., tightening each one as you did in Step 6G-a until all cables are taut.



**REMEMBER! Do not over tighten the cables. Doing so may result in bending the end posts.**

## SECTION 6-II CABLES WITH BARREL NUT ASSEMBLIES



**For projects with flat or wood top rail, DO NOT tighten the cables until the top rail has been secured to the posts.**

- 6A. Layout the holes on each side of the posts in the run.
- 6B. Using a 9/32" bit, drill half way into the post from each side, taking care to keep the hole straight (this applies to level and sloped conditions).
- 6C. Repeat Step 2 for all of the posts in a run.
  1. String the cable through all of the posts in the run except for the end post.
  2. Slide the cable all the way (about 2") into the threaded fitting and crimp it 1/2" from the end. Rotate the fitting 180 degrees and crimp it 1/2" from the previous one. **TIP: Any distortion resulting from crimping is easily straightened by tapping lightly with a hammer.**
  3. From the outside face of the end post, use the 3/8" bit to widen the 9/32" hole to a depth of 1 3/4" into the post.
  4. Slide a flat washer over the barrel nut and insert into the enlarged hole. Screw the fitting into the barrel nut until you feel the resistance of the nylon patch. Tighten the barrel nut one and a half turns past this point.
  5. At the other end, pull the cable taut and mark it at the outside face of the post.
  6. Cut the cable 2" shorter (1 3/4", if using a beveled washer) than this mark and attach a fitting as you did in Step 5.
  7. Repeat Steps 6 and 7.
  8. Repeat Steps 4-10 until all the cables are installed.
  9. TIGHTENING THE CABLES
    - a. Starting at the center cable (or one of the two center cables where there is an even number of cables), use the 5/32 allen wrench to tighten the cable. **TIP: Use a cloth to protect the threaded fitting while holding it with Vise-grips while tightening.**
    - b. From the initial cable, move up one, down two, up three, down four, etc., tightening each one as you did in Step 12a until all cables are taut.



**REMEMBER! Do not over tighten the cables. Doing so may result in bending the end posts.**

## SECTION 7: GLASS PANELS



**Your glass panels should meet requirements of your local Code. Talk to your glass provider about glass type, thickness, size, etc.**

- 7A. Using a 5/32" hex wrench, take apart several glass clamps.
- 7B. At a post that has a panel on one side only in a given direction, attach the glass clamps with the 5/16" x 2" bolts. Make sure the clamp is vertical, and not angled, at all.
- 7C. At a post that has a panel on both sides in a given direction, attach the glass clamps with the 5/16" x 2 1/4" bolts. Make sure the clamp is vertical, and not angled, at all.

- 7D. Make sure the correct rubber inserts are in place (For ¼" thick glass panels, use the '6 mm' inserts; 5/16" – '8 mm'; 3/8" – '10 mm').
- 7E. Set the panel in place and secure it with the free half of the glass clamp. **TIP: Using a two flat or on edge 2x4's laid perpendicular to the panel creates a perfect support for the panel while you tighten the clamp screws.**
- 7F. Repeat Steps 7A-7E until all the panels have been installed.

### THANK YOU FOR CHOOSING AGS STAINLESS, INC.

We want to hear from you! Send us your feedback and photos to be included in our website's Customer Photo Album. If you have any questions or concerns, please do not hesitate to call us at (888) 842-9492 or email us at [info@agsstainless.com](mailto:info@agsstainless.com).

### ARE YOU A CONTRACTOR?

AGS sells railing systems for projects all over the country. As easy as it is, some customers prefer not to do the installation. If you are a contractor and would like to be added to our list of recommended installers, please let us know. Send us some photos of your completed project along with your contact information and location (city, state, zip code) to [info@agsstainless.com](mailto:info@agsstainless.com) with the subject line "I'd like to be an AGS installer". When we have a customer in your area that is looking for someone to help with their install we will pass on your contact info.