

Clearview[®] Railing System Installation Instructions – RAINIER

WHAT YOU WILL NEED:

- 24" Level
- Power drill, 1/8", 3/16" drill bits
- 1/2" and 9/16" sockets
- (2) 7/16" wrenches
- Tape measure
- Small vise-grips
- 5/32" hex wrench (for flat or elliptical top rail)
- AGS cutters and crimper (for cable)
- Masking tape
- Non-abrasive cleaning cloth
- Acetone
- Caulking gun (for round top rail)
- 'C'-clamp (for flat top rail)
- Small Phillips screwdriver (for flat top rail)

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Please read instructions thoroughly and in their entirety before beginning installation. These pages will address typical installations to wood supporting structure. Connections to concrete will be very similar. Some systems have custom connections that may require additional help.

*****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.**

Locate the box that contains the Packing List and open it. Open each box and take an inventory of the contents. If the quantities do not match those on the packing list notify AGS right away.

Posts and top rail segments/components are etched to correspond to their ID numbers on the installation drawings. Posts are etched about an inch from the bottom and top rail components are etched at one end. Note: Due to fabrication processes, curved top rail pieces are not etched.

PHASE 1 - INSTALLING THE POSTS

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

- 1A. Begin your installation where designated on the drawings or at a corner/end post. Unpack the posts and top rail segments for a small area according to the plan. Starting small in scope will allow you to get familiar with the system.
- 1B. Use the plan view to identify and locate the post; mark the location of the top mounting fastener per the detail.
- 1C. Drill a pilot hole with the 3/16" drill bit.
- 1D. Install the post with the top 3/8" lag screw.
- 1E. Plumb the post and drill the pilot hole for the bottom lag screw.
- 1F. Tighten the lag screws ensuring the post is plumb in all directions.

- 1G. **If your railing system has an AGS round top rail, proceed to Phase 2: Section 3.** For flat, elliptical or wood top rail, repeat the steps in Section 1 until all posts are installed. Then, proceed to Phase 2: Section 4 for AGS' flat or elliptical top rail; Section 5 for wood cap rail.

SECTION 2: TOP MOUNT POSTS

- 2A. Begin your installation where designated on the drawings or at a corner/end post. Unpack the posts and top rail segments for a small area according to the plan. Starting small in scope will allow you to get familiar with the system.
- 2B. Use the plan view and detail to identify and locate the post. Orient it properly to the edge of the mounting surface.
- 2C. Drill a pilot hole with the 1/8" drill bit in one of the four mounting holes then install a 5/16" lag screw (finger tight).
- 2D. Install the remaining lag screws in the same manner. 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, elliptical or wood top rail, repeat the steps in Section 2 until all posts are installed. Then, proceed to Phase 2: Section 4 for AGS' flat or elliptical top rail; Section 5 for wood cap rail.

PHASE 2 – INSTALLING THE TOP RAIL

SECTION 3: ROUND TOP RAIL (For flat or elliptical top, go to Section 4; for wood top, go to Section 5)



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

- 3A. Find the proper rail component (i.e. straight 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) end to ensure an even distribution of the bonding agent.
- 3B. Take the next post and, with a twisting motion, slide it into the open end of the top rail component. Secure following the steps in Section 1 or 2. **Note: Straight lengths of top rail will follow the pitch of the mounting surface, so leveling them is unnecessary.**
- 3C. Clean off excess bonding agent with acetone.
- 3D. Repeat steps in Section 1 or 2 and Section 3 until installation is completed.
- 3E. Proceed to Phase 3 for infill installation.

SECTION 4: FLAT / ELLIPTICAL TOP RAIL

- 4A. Begin with the top rail component that corresponds to the first post(s) installed and position it atop the post.
- 4B. Center the top rail on the mounting plate and clamp it to the post. **TIP: Placing a soft cloth between the clamp jaws and component will prevent marring the stainless steel.**
- 4C. Apply steady pressure at medium speed and carefully drill a hole with the #18 drill bit into the underside of the top rail.
- 4D. Use the cutting tap to cut threads into the hole. Again, steady pressure and low drill speed. Install a #10-32 x 3/8" screw. 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 patented two-piece splice block, holes down, into the open end of the top rail component.
- 4F. Align the holes of the splice block and the top rail and, with two set screws, spread the splice block just enough so that it stays in place.

- 4G. Slide the next component over the exposed splice block and finish the splice connection with two set screws as in Step 4F. Tighten accordingly to create a smooth transition on the top side of the top rail.
- 4H. Repeat Steps 4B-4G until installation is completed.
- 4I. Proceed to Phase 3 for infill installation.

SECTION 5: WOOD TOP RAIL



Your wood top rail should meet the requirements of your local Code. Talk to your top rail provider about wood species, shapes and screw size for attachment to the post. A cross section with a 1 1/2" wide flat spot on the bottom allows for a nice connection at the post.

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

- 5A. Install the wood top so that the full strength of the wood section is developed at each splice. AGS recommends consulting a wood professional.
- 5B. Proceed to Phase 3 for infill installation.

PHASE 3 – INSTALLING THE INFILL



FOR PROJECTS WITH FLAT, ELLIPTICAL OR WOOD TOP RAIL, DO NOT TIGHTEN THE CABLES UNTIL THE TOP RAIL HAS BEEN SECURED TO THE POSTS.

(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 swageless fittings.

SECTION 6-I: CABLES WITH STANDARD OR BARREL NUT FITTINGS

- 6A. Slide a cable all the way into fitting. Crimp the fitting half an inch from the end with the cable. 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 fed 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 fitting/cable through all of the posts in the run.
- 6C. Thread one 1/4" jam nut onto the fitting so that it extends 1/8" past the nut. Using the 7/16" wrenches, securely tighten an acorn against the jam nut, locking it in place. If you have barrel nuts, thread the fitting into the nut so that only 1/16" of the nylon ring is visible.
- 6D. Back where you started, pull the cable taut and cut it about 2" from the OUTSIDE face of the post.
- 6E. Thread one 1/4" jam nut (or barrel nut) onto the fitting and slide the fitting over the cable. **DO NOT CRIMP.**
- 6F. Pull the cable taut, making sure it remains 'bottomed out' inside the fitting. Measure from the outside of the post to the near side of the jam nut or barrel nut head.
- 6G. Trim this amount from the cable and attach the fitting as you did in 6A. (Note: you will have to pull the cable out of the last post to do this).
- 6H. Attach the fitting to the cut end of the cable as you did in 6A.
- 6I. Repeat Steps 6A-6H until all the cables have been installed.
- 6J. TIGHTENING THE CABLES
 - a. Starting at the mid height of the post, tighten the jam (or barrel) nut just until the slack is taken out. Secure the jam nut position by tightening an acorn nut against it.

- b. From the initial cable, move up one, down two, up three, down four, etc., tightening each one as you did in Step 6J-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 SWAGELESS FITTINGS

- 6A. Feed the cable through all of the posts in a run.
- 6B. Attach a *non-adjustable* fitting by inserting the cable all the way into it.
- 6C. Back where you started, set the adjustable fitting so the length (not including the head) is about 3".
- 6D. Install the fitting in the end post and cut the cable 1" longer than where it meets the end of the fitting.
- 6E. Repeat Steps 6A-6D until all the cables have been installed.
- 6F. TIGHTENING THE CABLES
 - a. Starting at the mid height of the post, tighten the nut just until the slack is taken out. Use a 5/32" allen wrench and a 3/8" open end wrench.
 - b. From the initial cable, move up one, down two, up three, down four, etc., tightening each one as you did in Step 6F-a until all cables are taut.

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Clearview[®] Railing System Installation Instructions – GLACIER

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- 1B. Use the plan view to identify and locate the post; mark the location of the top mounting fastener per the detail.
- 1C. Drill a pilot hole with the 3/16" drill bit.

- 1D. Install the post with the top 3/8" lag screw.
- 1E. Plumb the post and drill the pilot hole for the bottom lag screw.
- 1F. Tighten the lag screws ensuring the post is plumb in all directions.
- 1G. **If your railing system has an AGS round top rail, proceed to Phase 2: Section 3.** For flat, elliptical or wood top rail, repeat the steps in Section 1 until all posts are installed. Then, proceed to Phase 2: Section 4 for AGS' flat or elliptical top rail; Section 5 for wood cap rail.

SECTION 2: TOP MOUNT POSTS

- 2A. Begin your installation where designated on the drawings or at a corner/end post. Unpack the posts and top rail segments for a small area according to the plan. Starting small in scope will allow you to get familiar with the system.
- 2B. Use the plan view and detail to identify and locate the post. Orient it properly to the edge of the mounting surface.
- 2C. Drill a pilot hole with the 1/8" drill bit in one of the four mounting holes then install a 5/16" lag screw (finger tight).
- 2D. Install the remaining lag screws in the same manner. 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, elliptical or wood top rail, repeat the steps in Section 2 until all posts are installed. Then, proceed to Phase 2: Section 4 for AGS' flat or elliptical top rail; Section 5 for wood cap rail.

PHASE 2 – INSTALLING THE TOP RAIL

SECTION 3: ROUND TOP RAIL (For flat or elliptical top, go to Section 4; for wood top, go to Section 5)



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

- 3A. Find the proper rail component (i.e. straight 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) end to ensure an even distribution of the bonding agent.
- 3B. Take the next post and, with a twisting motion, slide it into the open end of the top rail component. Secure following the steps in Section 1 or 2. **Note: Straight lengths of top rail will follow the pitch of the mounting surface, so leveling them is unnecessary.**
- 3C. Clean off excess bonding agent with acetone.
- 3D. Repeat steps in Section 1 or 2 and Section 3 until installation is completed.
- 3E. Proceed to Phase 3 for panel infill installation.

SECTION 4: FLAT / ELLIPTICAL TOP RAIL

- 4A. Begin with the top rail component that corresponds to the first post(s) installed and position it atop the post.
- 4B. Center the top rail on the mounting plate and clamp it to the post. **TIP: Placing a soft cloth between the clamp jaws and component will prevent marring the stainless steel.**
- 4C. Apply steady pressure at low speed and carefully drill a hole with the #18 drill bit into the underside of the top rail.
- 4D. Use the cutting tap to cut threads into the hole. Again, steady pressure and low drill speed. Install a #10-32 x 3/8" screw. 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 patented two-piece splice block, holes down, into the open end of the top rail component.
- 4F. Align the holes of the splice block and the top rail and, with two set screws, spread the splice block just enough so that it stays in place.
- 4G. Slide the next component over the exposed splice block and finish the splice connection with two set screws as in Step 4F. Tighten accordingly to create a smooth transition on the top side of the top rail.
- 4H. Repeat Steps 4B-4G until installation is completed.
- 4I. Proceed to Phase 3 for panel infill installation.

SECTION 5: WOOD TOP RAIL



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

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- 5A. Install the wood top so that the full strength of the wood section is developed at each splice. AGS recommends consulting a wood professional.
- 5B. Proceed to Phase 3 for panel infill installation.

PHASE 3 – INSTALLING THE INFILL

SECTION 6: PANELS (GLASS, WIRE MESH, ETC.)



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

- 6A. Using a 5/32" hex wrench, take apart several clamps.
- 6B. For posts that have a panel on one side only, attach the glass clamps with the 5/16" x 2" bolts. Make sure the clamp is vertical.
- 6C. For post with panels on both sides, use the 5/16" x 2 1/4" bolts. Make sure the clamp is vertical.
- 6D. 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').
- 6E. Set the panel in place and secure it with the free half of the glass clamp. **TIP: Placing 2x4's on the floor/deck creates a perfect support for the panel while you tighten the clamp screws.**
- 6F. Repeat Steps 6A-6E until all the panels have been installed.

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