

# Clearview® Railing System Hardware Installation Instructions (rev. 4/7/14)

## WHAT YOU WILL NEED:

- Power drill
- AGS cable cutters
- AGS crimpers
- Drill bits (sizes called out in each section)
- Wrenches (sizes called out in each section)

Note: The following guidelines are for cases where AGS hardware is attaching to wood, composite, etc. materials. They will work for many common scenarios. If you have a situation that is not covered and you cannot figure out, do not hesitate to call us at (888) 842-9492.

**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. AGS recommends a maximum post spacing of 5' o.c. Exceeding this spacing may result in a non-compliant railing.**

**\*\*\*We are here to help. You can reach us at (888) 842-9492, Mon.-Fri. 8-430 PST.\*\*\***

Disclaimer: Hardware provided by AGS Stainless, Inc., when installed properly, can be used as 'infill' as defined by the national governing building codes. It is the responsibility of the end user to ensure that the railing system meets the requirements of the local governing code.

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## CABLE SLEEVES

**Note: If you are using cable sleeves, they need to be inserted into the posts before stringing the cable. Please do this prior to any step, below, that deals with cable installation.**

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## STANDARD FITTINGS

1. Layout the holes on each side of the posts in the run.
2. 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).
3. Repeat Step 2 for all of the posts in a run.
4. String the cable through all of the posts in the run.
5. Slide the cable all the way (about 2") into a threaded fitting and crimp it ½" from the end. Rotate the fitting 180 degrees and crimp it ½" from the previous one. **TIP: Any distortion resulting from crimping is easily straightened by tapping lightly with a hammer.**
6. Place a flat washer and screw one 1/4" jam nut onto the fitting so that threads extend 3/16" past the nut. Screw an acorn nut on to the fitting and securely tighten it against the jam nut, locking it in place.
7. At the other end, pull the cable taut and mark it at the outside face of the post.

8. 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 4.
9. Repeat Step 6, but only tighten the nuts to snug-tight.
10. Repeat Steps 4-9 until all the cables are installed.
11. TIGHTENING THE CABLES
  - a. Starting at the center cable (or one of the two center cables where there is an even number of cables), tighten the jam nut until the slack is taken out. 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 11a until all cables are taut.

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## LAG TERMINALS

1. Layout the cable holes on the inside face of the end posts and on each side of the intermediate posts in the run.
2. Drill a 1/8" x 2" deep pilot hole into the end posts taking care to keep the hole parallel to the pitch, if any, of the finished floor.
3. Using a 9/32" drill bit, drill half way into the intermediate posts from each side. Again, be sure to match the pitch of a sloped installation, if applicable.
4. Run the cable through all of the intermediate posts.
5. At the end post, use a 10 mm or an adjustable wrench to run the lag terminal all the way in.
6. Unscrew the tapered nut until it is held on to the terminal body by only a couple of threads. **NOTE: You can also completely separate the parts. Just make sure not to lose the brass washer on the inside.**
7. Work the cable into the center of the three jaws and feed it in until it stops.
8. Use a 12 mm or an adjustable wrench to tighten the jaws in the tapered nut onto the cable.
9. Lock the tapered nut in place with the jam nut.
10. Go to Step 3 in ADJUSTABLE LAG TERMINALS to finish the current line of cable.

**Note: Each line of cable should have at least one adjustable lag terminal to allow for proper cable tensioning.**

## ADJUSTABLE LAG TERMINALS

1. Follow Steps 1 – 5 for LAG TERMINALS if you are starting with and adjustable lag terminal.
2. Adjust the turnbuckle so that half of the total thread length is showing on each side of the turnbuckle body.
3. Pull the cable taut and mark it 1/8" from the base of the threads that receive the tapered nut. Cut the cable at your mark.
4. Unscrew the tapered nut until it is held on to the terminal body by only a couple of threads. **NOTE: You can also completely separate the parts. Just make sure not to lose the brass washer on the inside.**
5. Work the cable into the center of the three jaws and feed it in until it stops.
6. Use a 12 mm or an adjustable wrench to tighten the jaws in the tapered nut onto the cable.
7. Lock the tapered nut in place with the jam nut.
8. Tension the cable by tightening the turnbuckle with a small screwdriver or hex wrench.
9. Lock the turnbuckle by tightening the jam nuts against it.

## DECK TOGGLES

1. Layout the cable holes on the inside face of the end posts and on each side of the intermediate posts in the run.
2. At the end posts, make a mark  $\frac{3}{4}$ " from each cable layout mark, taking note of how you want the toggle to swivel.
3. Using a  $9/32$ " drill bit, drill half way into the intermediate posts from each side, taking care to keep the hole straight.
4. Run a cable through all of the intermediate posts of one run.
5. Slide the cable all the way into the toggle and crimp it half an inch from the end. Rotate the fitting 180 degrees and crimp it half an inch from the previous one. **TIP: Any distortion resulting from crimping is easily straightened by tapping lightly with a hammer.**
6. Attach the deck toggle to the end post with the #14 screws at the mark you made in Step 2.

**Note: Each line of cable should have at least one adjustable deck toggle to allow for proper cable tensioning.**

## ADJUSTABLE DECK TOGGLES

1. Adjust the turnbuckle so that half of the total thread length is showing on each side of the turnbuckle body.
2. Attach the deck toggle to the post with the #14 screws at the mark you made in Step 2.
3. Pull the cable taut and mark it where it meets the end of the toggle.
4. Add  $1 \frac{1}{2}$ " of length to the cable and cut it.
5. Slide a cable all the way into the toggle and crimp it half an inch from the end. Rotate the fitting 180 degrees and crimp it half an inch from the previous one. **TIP: Any distortion resulting from crimping is easily straightened by tapping lightly with a hammer.**
6. Tension the cable by tightening the turnbuckle with a small screwdriver or hex wrench.
7. Lock the turnbuckle by tightening the jam nuts against it.

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## BARREL NUT ASSEMBLIES

1. Layout the holes on each side of the posts in the run.
2. 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).
3. Repeat Step 2 for all of the posts in a run.
4. String the cable through all of the posts in the run except for the end post.
5. Slide the cable all the way (about 2") into the threaded fitting and crimp it  $\frac{1}{2}$ " from the end. Rotate the fitting 180 degrees and crimp it  $\frac{1}{2}$ " from the previous one. **TIP: Any distortion resulting from crimping is easily straightened by tapping lightly with a hammer.**
6. From the outside face of the end post, use the  $3/8$ " bit to widen the  $9/32$ " hole to a depth of  $1 \frac{3}{4}$ " into the post.
7. 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.
8. At the other end, pull the cable taut and mark it at the outside face of the post.
9. Cut the cable 2" shorter ( $1 \frac{3}{4}$ ", if using a beveled washer) than this mark and attach a fitting as you did in Step 5.
10. Repeat Steps 6 and 7.

11. Repeat Steps 4-10 until all the cables are installed.
12. 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.