

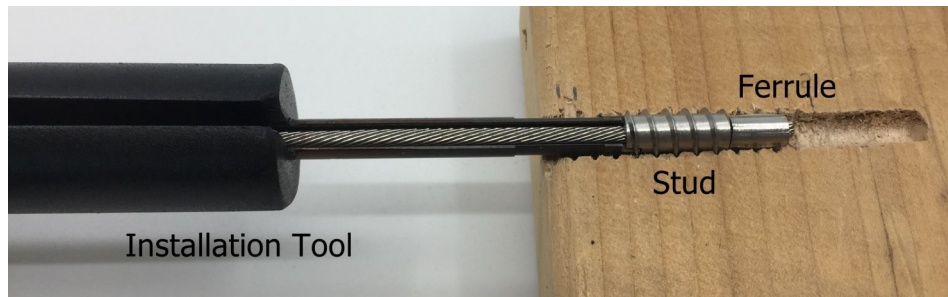
Installation Instructions

Select the exact location of the cables. Usually, the code for railing infill is a maximum opening of 4 inches. The cables are normally spaced 3" on center to account for cable sag. Follow your local code. This hardware is designed to be used with 1/8", 1x19, 316SS cable.

The p/n 1121 stud tensioner anchors the end of the cable to a wood post and also tensions the cable. A p/n 1213 swaging tool & p/n 1223 stud installation tool is required for the installation of the stud tensioner.

You may want to use a p/n 1141 washer anchor for the first end and a stud tensioner for the second end. For each cable run do the following:

Stud Tensioner



1. **Drill Holes** Mark the cable anchor points. Drill a 17/64" hole by 2 1/2" deep. On both straight runs and stair runs, the direction of the hole must be in line with the cable.
2. **Load Ferrule** Place a ferrule centered into the die of the swaging tool (also called a swager or crimper). Close the valve fully. Pump the handle on the swaging tool until you can feel the die contact the ferrule. You can easily feel the contact of the ferrule by a slight increase in the force required to move the handle.
3. **Load Stud** Place a stud onto the end of the cable, with the tool slot end of the stud facing away from the end of the cable.
4. **Insert Cable** Insert the cable into the ferrule, with the cable sticking out of the ferrule approximately 1/8". Hold the cable in this position by shoving the cable sideways from the ferrule so that it will bind slightly and stay in position.
6. **Swage Ferrule** Pump the swaging tool until the ferrule is fully compressed and the die will move no further. This is two to three full strokes on the handle. For the ferrule to be fully swaged, the handle should be very hard to move at this point. If it isn't hard to move, then the valve is not fully closed.
7. **Open the valve** 1/4 turn for two seconds to allow the die to fully open. Without taking your hand off of the knob, close the valve, making it ready for the next cycle. Remove the cable assembly and reload the swaging tool with a ferrule so that it will be ready for the next cable. This rhythm will make the job go quicker.
8. **Install the Stud** Place the stud installation tool on to the cable and engage the slot in the stud. Carefully start the stud into the hole, making sure that it is aimed straight with the hole. If both cable ends have a tensioner, install the first stud with the slot end of the stud approximately 1/4" into the post.
7. **Cut Cable** Go to the other end. Stretch the cable as tight as you can with your hands. Cut the cable approximately 1 1/2" past where it meets the post. Install the stud tensioner and ferrule to the cable.
8. **Install Second End** Screw the stud into the post until the cable is lightly tensioned. Go to the next cable and repeat until all of the cables in this railing section are installed.
9. **Desired Stud Depth** There is an undercut area near the end of the installation tool shaft. The final position of the stud should result in this area being located at the face of the post. The stud can be located further into the post than the undercut, but must be at least past the leading edge of the undercut to give the stud a strong grip.
10. **Tension Cables** After installing all of the cables, pull each cable from side to side and up and down to work out any slack. Then tension all of the cables repeatedly until they all feel moderately tight. They should not be so tight that the cable feels like a solid rod.



Washer Anchor

1. **Countersink Hole** First drill a 31/64" countersink hole that is approximately 1" deep. A good bit to use is p/n 1231, but any sharp 31/64" wood bit will do. It is important that the drill speed should be fast to get a clean smooth cut at the edge of the hole. Hold the drill steady so that it does not pull and surge into the hole and drill too deep.
2. **Drill Thru Hole** After drilling the countersink hole, drill a 3/16" thru hole. Drill from each side and meet in the middle to get an accurate exit of the hole on both sides. Be careful to start the 3/16" bit in the middle of the bottom of the 31/64" hole.
3. **Load Washer** Feed the cable into the 3/16" thru hole. Load the washer onto the cable. Then swage a ferrule to the end of the cable as explained in the previous stud tensioner section of the instructions.
4. **Insert Cap** Tap the 1/2" nylon cap into the post.
5. **Install Tensioner** Go to the other end of the cable and install the stud tensioner.

