



90° Stringer Installation Instructions

Floor-to-Wall Installation

Unpack: What's included?

- Your Stringer & Tread Brackets (4 bolts per bracket)
- Header Plate Mounting Kit (wood or concrete)
- Foot Plate Mounting Kit (wood or concrete)
- Tread Screws – (8) per tread
- (4) Hanger Bolts & Driver (for the bottom tread)
- Nosing Installation Kit (wood or concrete)
- FLIGHT Installation Kit (contains Torque Wrench, location pins, drive bits, shim, and threadlock)

Tools You'll Need

- Impact Driver or Drill
- Level
- Tape Measure
- Come Along Winch (Optional, recommended)
- (2) 1/2" Lag bolts to hold the stringer in place until the through bolts are mounted.

Preparation

- Unbox the stringer and carry it to the installation site.

Note: These stringers are built from thick, mild steel, so you're going to need extra hands to help move and position the stringer.

- Once the stringer is at the installation location, review and verify the accuracy of the measurements provided on your design drawing. If your measurements on the job site do not match the measurements on the drawing, view our bracket adjustment page. Viewrail FLIGHT tread brackets are adjustable up to 1/2".
- Measure from the finished floor to where the top of the stringer's header plate will be located on your header. This measurement is provided on your drawing.
- Draw a horizontal line to represent where the top of the header plate will line up on the wall at each end of the upper stringer. Use a level to ensure that this line is level. Then find the center of the header and make a mark. (see fig. A)
- Next, place a mark on the center of the header plates. You'll use these marks to help align the upper stringer during installation. (see fig. B)
- Lift the upper stringer into place with as many people as necessary, or with the help of a come-along winch.

When using a come-along winch, attach the winch to a strong point in the framing of the house. Place a strong strap around the stringer and connect it to the come-along winch. Ratchet the winch up to lift the stringer. Have someone to help guide the stringer into place.

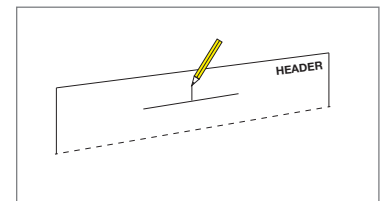


fig. A

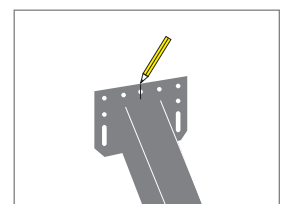


fig. B

Mount the Stringer

WARNING: Do not attempt to mount your stringer to or through drywall. At minimum double LVL header or triple 2x required.

- Set the upper stringer to the location notated in the drawings. Check to see that the top of the header plate follows the level line you drew on the header. Place a level on the header plate to ensure the center lines on the header and header plate align. (see *fig. C*)
- Place two fasteners in each mounting plate to hold in place while the lower stringer is attached. (see *fig. D*)
- Bolt the lower stringer into the side of the upper stringer using the provided bolts. Torque these bolts to 60 ft-lbs.

Reference the *Install Tread Brackets* section on the page 3 to help with the next step.

- Install brackets at the top and next-to-bottom positions. Align the predrilled holes on both treads with the corresponding holes on each bracket.
- If mounting against a wall, ensure the bottom tread, top tread, and stringer are parallel to the adjacent wall. If any of these elements are not parallel, shim the header plate as necessary. (see *fig. E*)
- Next, verify that the treads are level. If they are not, raise one side of the stringer foot plate with shims as needed until treads are level.
- Once everything is level, secure your stringer by through-bolting your base plate, then the header plates. Populate all (7) holes of the header plates with through bolts. (see *fig. F*) Populate all (8) holes of the base plate with through bolts, lag bolts, concrete wedge anchors, or *Red Head C6+ Adhesive Anchors*. Torque the bolts to 80 ft-lbs.

Touch Up Your Stringer

- Use the included touch up paint to fix any powder coat that was chipped or scratched during your stringer installation.

Note: It's easiest to complete this step before adding your treads because the full stringer is exposed.

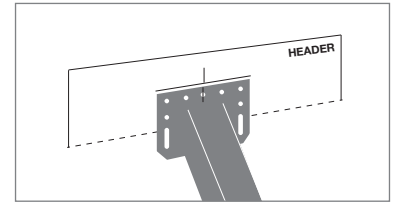


fig. C

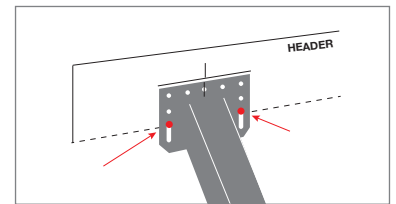


fig. D

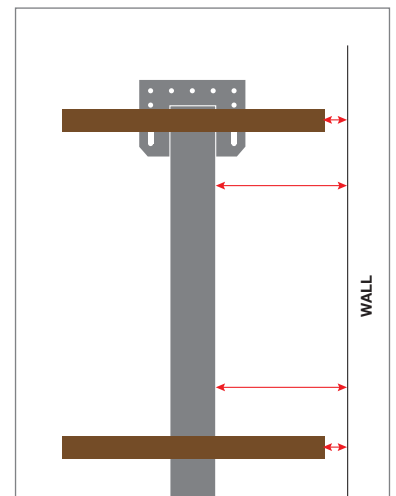


fig. E

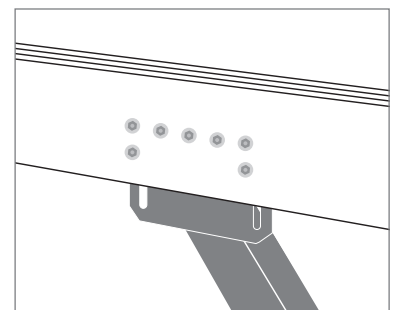


fig. F

Install Tread Brackets

- Set a bracket in place and insert location pins. Location pins ensure that your bracket is precisely where it should be according to the engineering drawing. (see *fig. G*)
- Hand-start each of the (4) bolts, apply loctite to bolt, then tighten and torque to 70 ft. lbs.
- Repeat this process for all tread brackets.

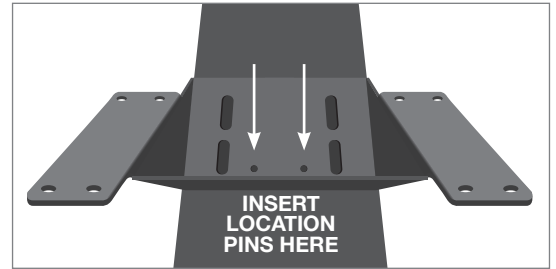


fig. G

Mount Nosing

- Remove the inner nosing from the back of the outer nosing. Find the vertical and horizontal centers of the inner nosing and place a mark.
- Drill four (4) evenly spaced holes through the inner nosing appropriate for the 5/16" fastener size. Countersink these holes to allow fastener to sit flush or just below the face of the inner nosing.
- Mark the vertical and horizontal centers of the outer nosing.
- Hold the outer nosing in the desired mounting location (this is typically level with the finished floor). Make sure it's level and transfer the centerlines from the outer nosing on to the header.
- Line up inner nosing to the marks on the header and attach with one of the included 6" x 5/16" fasteners. Place outer nosing on inner nosing and verify it is level with the finished floor. Correct as needed.
- Install the remaining inner nosing fasteners.
- Apply the included construction adhesive to the inside of the of the outer nosing and install on to inner nosing.
- Install trim screws into top of nosing. Fill and finish these holes as desired.

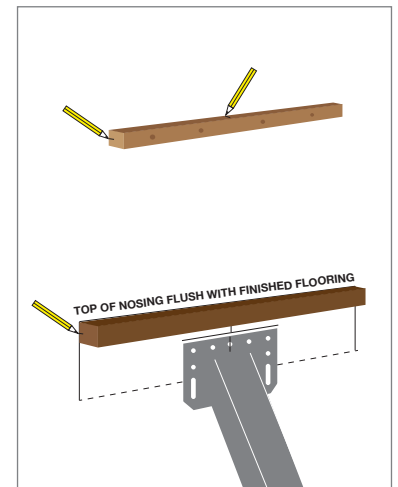


fig. H

Mount Treads

Note: There are separate instructions for the bottom tread of the stringer. It will require hanger bolts for installation, giving it a slightly different installation process. Be sure to follow the Installing the *Bottom Tread* instructions for the bottom tread of your staircase.

- Place your treads on the tread brackets.
- Position the treads on the brackets so that the predrilled holes align with the holes of each bracket. **If any adjustments are needed, follow the bracket adjustment steps on page 4 before mounting your treads.**
- Make sure the treads are level. Shim if necessary.
- Using a T30 torx bit, install the tread mounting screws.

Installing the Bottom Tread

- There are 8 holes in the bracket, however, only 4 of the holes need to be populated. Use the holes at the corners of the bracket. (*red dots on fig. I*) Insert the hanger bolts into the tread with the hanger bolt driver (provided). (*see fig. J*)
- Place the tread back on the bracket.
- Put nuts on the hanger bolts and tighten.

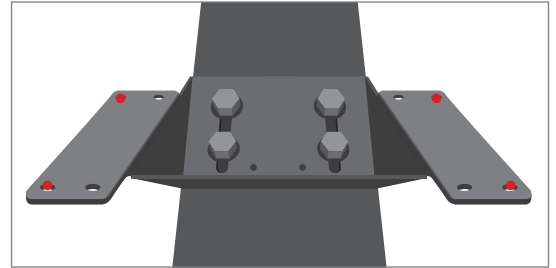


fig. I

Installing the Platform

- Carefully set platform in position.
- Align platform with installed treads.
- Ensure that the platform is level. Shim if necessary.
- Once platform is level and aligned with the treads, pre-drill all hole locations then populate with included screws.

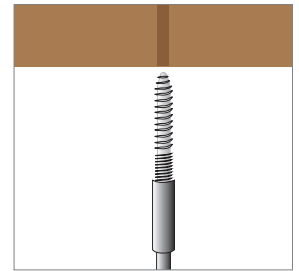


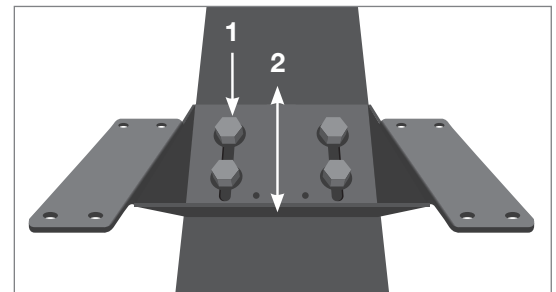
fig. J

Adjusting Your Tread Brackets

Remember, this step is only required if the measurements on the installation site do not match the ones we received when we created your drawing. If all actual measurements match your drawing, your tread brackets should be positioned correctly, and you will not need to complete this section.

Adjusting Tread Location

1. Loosen the bolts on the tread base plate.
2. Slide the base plate up or down until it is at your desired position.
3. Place a level on top of the base plate and verify that it is level.
4. Torque the stud plates to 70 lbs.
5. Repeat this process until all tread brackets are level and positioned as needed.



That's all it takes!

Now you're ready to install your railing. If you have any questions, please email or call for help from our experienced technical advisors.

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