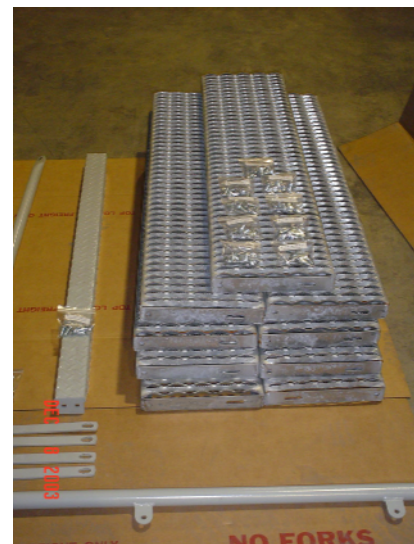


## INSTALLATION INSTRUCTIONS

### Prior to Assembling and Installing:

- 1) Field Check and verify that all components of the structure required for installation are in place per the approved shop drawings. Report any discrepancies to the Architect or contractor for corrective action by responsible parties prior to erection of stair.
- 2) Insure that stairwell or mounting location is clear of obstructions.
- 3) Unload and handle material in a manner that will not strain, bend, deform or otherwise damage it.
- 4) Inspect stringers for damage during shipment, if either stringer is pierced, creased, bent or permanently deformed **do not erect the stair** until replacement stringers are obtained. Slight bowing or crowning of stringers is acceptable if it is corrected by the assembly process.
- 5) Inspect stair rails and balusters for damage during shipment. Stair rails that are damaged, bent, defaced, or deformed, that are still functional, (or can be made to be functional) and can be assembled, may be utilized on a temporary basis until replacement components are obtained. If any stair rail components are found to be damaged beyond the ability to function per the stair rail requirements, the stair may be erected but must be roped off or otherwise protected from use until such components are replaced.
- 6) Where possible retain cardboard packing material or obtain other suitable material and use it to cover any rough concrete floor surface that might damage the stair surface during pre-assembly; or it may be used to protect any soft floor surface that might be damaged during the stair pre-assembly process.



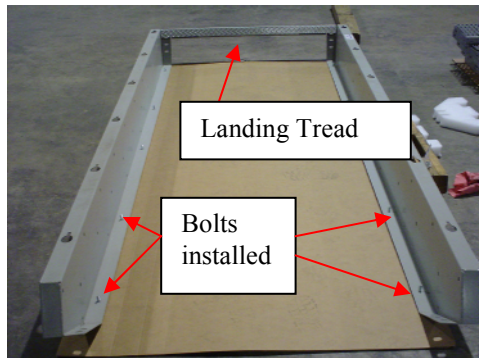
BOCA style stair with X bracing and Grip treads as shown.

**Assembly Steps:**

**Note:**

**All tread, stair rail, X-brace, and/or back pan fasteners should be tightened to a minimum torque value of 25-35 foot-pounds, and they should never be tightened in excess of 35 foot-pounds.**

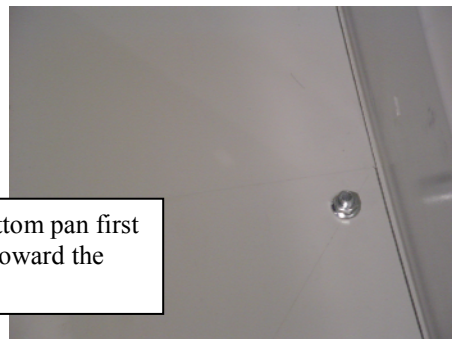
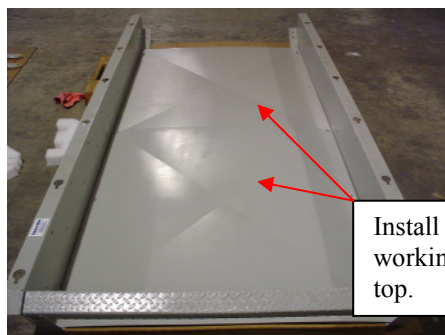
- 1) If your stair was ordered with back pans instead of X-bracing (covered in step 9) the back pans should be installed loosely prior to installing the treads.
  - a) Insert carriage bolts through the bottom flange of the stair stringer from the bottom side of the stringer.



**Note: Install the Landing tread with one bolt each side to hold stringers vertical.**

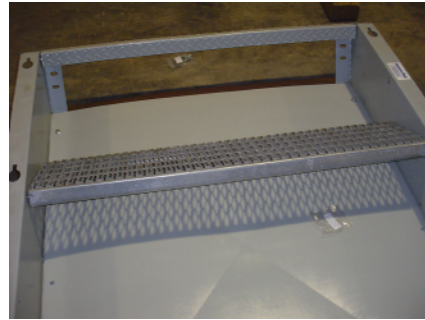
- b) Lay the back pans in place starting from the bottom overlapping each section.

**Note:** Short stairs will typically have only one pan, mid-size stairs will have two pans (both being the same) and large stairs will have a top and bottom pan (both being the same part) and one or more middle sections (also the same).



- c) Install the 3/8-16 flange nuts hand tight. **Do not tighten until after the treads are installed.**

- 2) Assemble all treads to stringers, utilizing the 3/8-16 X 1" carriage bolts and 3/8-16 serrated flange nuts shipped with the unit. Attach all treads with fasteners loosely prior to tightening any single tread so as to maintain assembly clearance until all treads are placed. Top and bottom tread may be left out at pre-assembly to allow clearance for installation of stair mounting fasteners during erection. After all treads are installed torque all fasteners (including back pan fasteners if so equipped) to 25-35 foot-pounds.

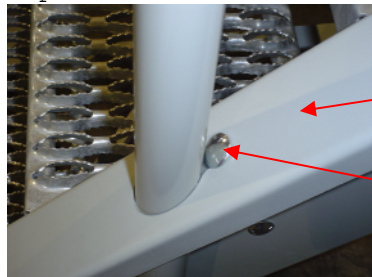


**Note:** All tread attachment carriage bolt should be installed from the outside such that the bolt heads are visible and appear on the outside/outboard sides of the stair stringer.



- 3) Assemble stair rail components, utilizing the fasteners shipped with the unit.
- a) Place all 3/8-16 X 1" carriage bolts for the baluster clamps in the rectangular slots at each baluster hole through the stringer top flange prior to inserting balusters in the holes on the top of the stringer.

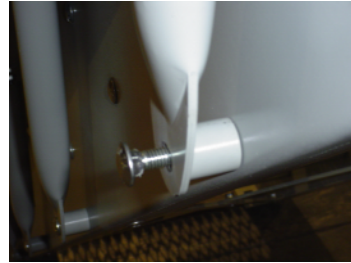
**Note:** Baluster clamp carriage bolts heads should appear on the top surface of the stringer flange.



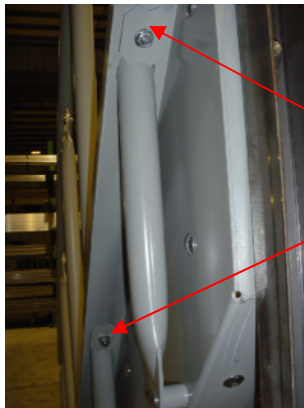
Stringer top flange.

Carriage bolt.

- b) Insert balusters through the holes in the top flange of the stringer then attach the baluster at bottom anchor point with the 3/8-16 X 2" carriage bolt, baluster spacer and serrated flange nut and torque to 25-35 foot-pounds.

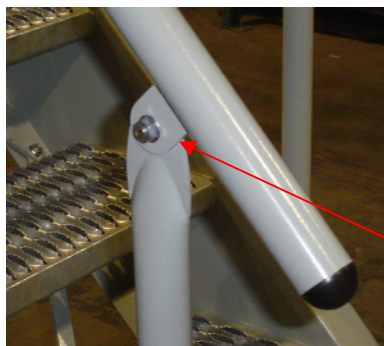


- c) Install the baluster clamps to the underside of the top stringer flange; **be sure to orient the clamp so that the radius on the clamp contacts the baluster**. Install 3/8-16 serrated flange nut and torque to 25-35 foot-pounds.



Baluster Clamps

- d) Install the stair rail to each baluster with the tab on the rail to the outside of the baluster using the 3/8-16 X 3/4" carriage bolts and serrated flange nuts. Insert the carriage bolt from the inside of the stair (walking surface) with the serrated nut to the outside of the stair rail. Torque to 25-35 foot-pounds.



Rail tab to outside of baluster.

**Note:**

- If stair has BOCA style rails be sure that the rail end with 2 bends is placed to the top of the stair.



The end with two bends goes to the top of the stair.

- For stairs with BOCA style stair rails the four end balusters are of a different design. Balusters with an extra tab welded to the side should be placed in the two top most and two bottom most baluster holes in the stringers with the tab parallel to the stringers and pointing away from the stair in the direction of approach to the stair.



Top end of BOCA baluster



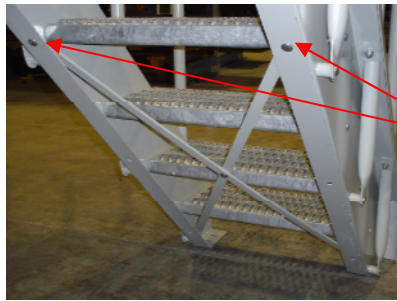
- 4) Prepare stair mount location.
- 5) Position stair with top landing tread at same elevation as upper finished floor surface.
- 6) Erect stairs square, plumb, straight and true to line and level.
- 7) Secure stair assembly with the required hardware but with never less than four fasteners at the top and bottom-mounting surface. A minimum of two fastener at each end of each respective stringer.
- 8) Remove top or bottom tread if required to access bolts or nuts for tightening.
- 9) Install and fasten X-bracing components. Insure the installation is secure and rigid.

Note: If purchased with back pan this step is not required.

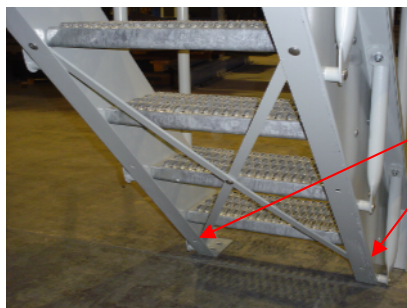
- a) Pre-assemble the X-braces by inserting a 3/8-16 X 1" carriage bolt through the center holes connecting two braces to make one X-brace and install the 3/8-16 serrated flange. Leave the nut hand tight until all braces are installed on the stair.



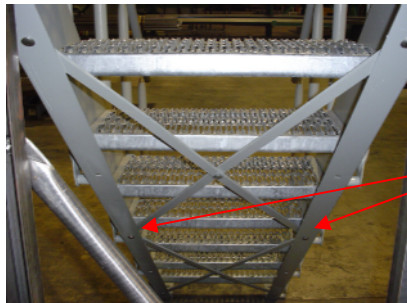
- b) Install the X-bracing starting from the bottom of the stair. Where the X-braces meet they share mounting holes so you may require assistance installing these components. The bracing should be installed to the inside of the bottom stringer flange to avoid having protrusions on the bottom of the stair.



Install bottom X-Brace inside of stringer attaching hand tight using upper mounting holes.



Install bottom fasteners hand tight.



Remove top fasteners and insert next section of X-Bracing. Hand-tighten all fasteners until all sections are installed then tighten to 25-35 foot-pounds.

- c) After X-bracing is installed tighten all fasteners to 25-35 foot-pounds.
- 10) Re-install top and bottom tread at their respective locations if removed for installation. A spreader jack may be used to gain some assembly clearance for reinstallation of top and bottom treads but great care must be taken not to scar or permanently deform the stringers.
- 11) Touch up with matching paint any chipped or abraded damage to factory finish or touch up any damage to galvanized surfaces using galvanized repair paint in accordance with ASTM A780.