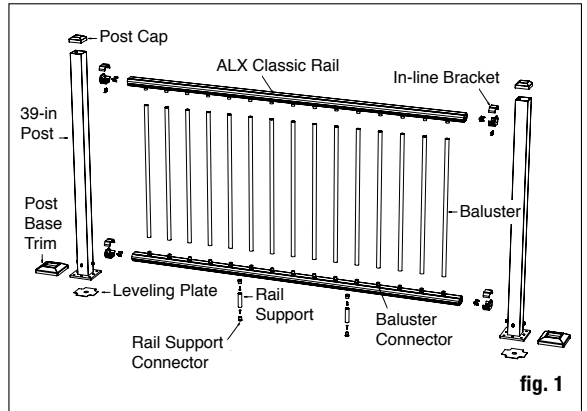
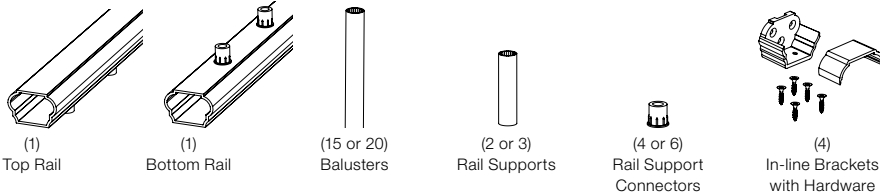


**Tools and Items Needed**

- Drill/power screwdriver
- Miter or circular saw with carbide tip blade
- Marked speed square
- Carpenter's level
- Carpenter's pencil
- Adjustable wrench or socket wrench for bolts, etc.
- Safety glasses/goggles
- Rubber mallet
- Tape measure
- Lag screws
- 3/16" allen wrench



**Contents**

- 2 – 6' or 8' aluminum rails with baluster connectors installed
  - 1 – Level or stair bracket kit
  - 16 – #8 x 3/4" screws (8 - #8 x 3/4" and 8 - #8 x 1-3/4" screws for stair kits)
  - 15 – Balusters (12 for stair kits, 20 for 8' line kits)
  - 2 – Rail supports (3 for 8' kits)
- NOTE: Recommend 5/16" x 4" or longer lags

**In-Line Railing Installation Instructions**

**Posts Installation**

**Prior to construction:**

- Check with your local regulatory agency for special code requirements in your area. Common railing height is 36" or 42". Read instructions completely to get an understanding of how the product goes together and how each piece affects the other.
- Determine the number of railing posts needed for your deck. Post spacing is 6' or 8' on-center. Example: A 12' x 16' deck attached to a building with a 4' access opening on one side will need a total of eight posts. To minimize cutting, use as many full panels as possible.
- If installing low-voltage lighting, wiring must be installed before securing posts to deck surface.

**Step 1** Install posts by attaching the aluminum base to the surface of the deck. Position the post so the fastener will go into the floor joist, and make sure the decking is firmly attached to the joist at the location of the posts. If necessary, use wood blocking securely attached to the joist structure as reinforcement underneath the decking where the posts are located. Fasteners that hold the post base to the surface should be able to secure to joist or reinforcement braces, not just the decking itself. Note: When installing aluminum post on top of a wood surface, screws must be lagged into at least 3" of solid wood (not including the decking). 5/4" or 1 1/2" deck boards do not provide sufficient material for a safe installation. If necessary, add additional material to the underside of the surface (fig. 2).

**Step 2** Position the post assembly onto the location where it will be attached to the deck. Four 11/32" diameter mounting holes are provided on the base. When the final position is determined, mark the base hole locations. Remove the post assembly and drill 15/64" holes in the marked locations into the deck and reinforcement.

**Step 3** Reposition the post assembly with the leveling plate inserted between the deck and the post base, and aligned with the predrilled holes. Insert the post fasteners (**NOT INCLUDED**), and partially tighten. Using a level, adjust the leveling set screws with a 3/16" allen wrench until the post is plumb. Fully tighten the post fasteners to secure the base to the deck structure. Note: Recommended 5/16" x 4" or longer lag screws.

**STOP: Make sure post base trim is installed before continuing.**

**For rail kits: Baluster connectors are attached to bottom and top rail, but should be fully tightened by hand to railing before being installed. Do not over tighten.**

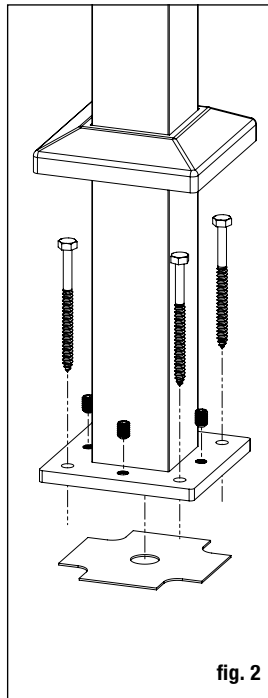


fig. 2

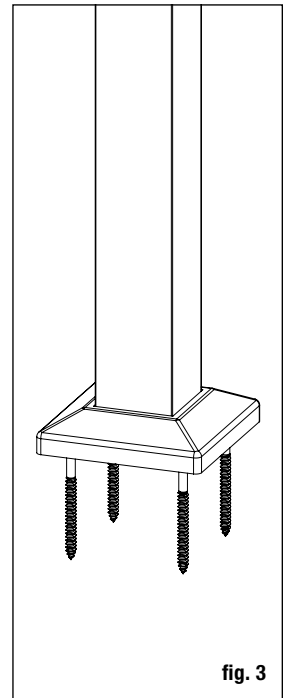


fig. 3

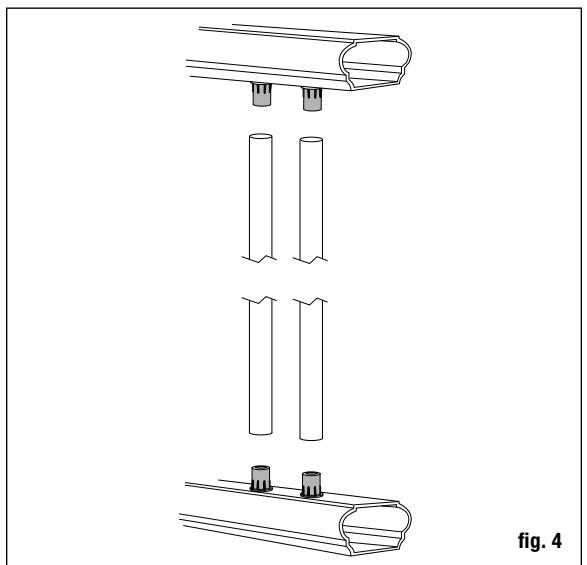


fig. 4

## Railing Installation

### Prior to construction:

- Check building code requirements for maximum spacing between deck surface and bottom of rail (sweep). Spacing of 3" is recommended for 36" or 42" finished rail height.

**Step 1** Measure the distance between installed posts to determine the length of the top and bottom rails. The rails are sized for 6' and 8' on-center posts, when using 2.5" posts, and include space for the brackets. Position rail adjacent to installed posts. The distance between the post and the first baluster should be less than 4" and equal on both ends. As needed, mark the length on top and bottom rails, trim the rails to length for runs that are less than 6' or 8' o.c. and remove an additional 1/4" on both ends (1/2" overall) for the bracket to fit between the rail and post.

**Step 2** Temporarily place the brackets on either end of the bottom rail. Position the bottom rail between posts and center. Mark the location of the bracket on both posts. Remove rail and brackets. Mark the screw locations and predrill through the posts only, using a 1/8" drill bit.

**Step 3** Attach each bracket to the posts with three 3/4" screws.

**Step 4** A rail support is needed every 2 feet (2 are included in the 6ft kit, 3 in the 8ft kit). Attach rail support connectors to the bottom of the lower rail at 2 foot intervals. Predrill using a 1/8" drill bit. Attach the rail supports to the rail support connectors. Mark the location of the rail support on the deck surface and attach the other rail support connector to the deck using the included screw.

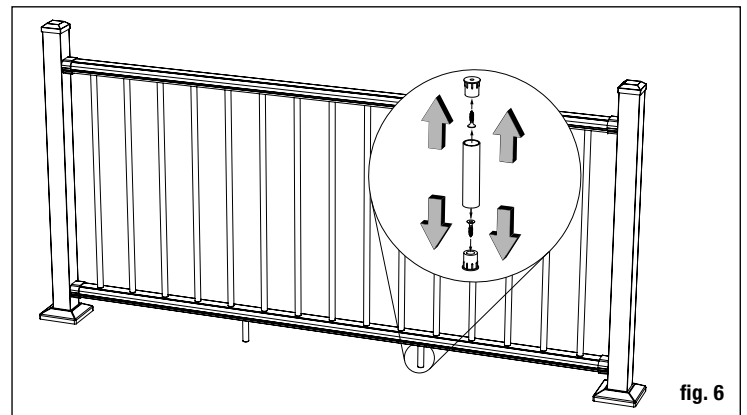
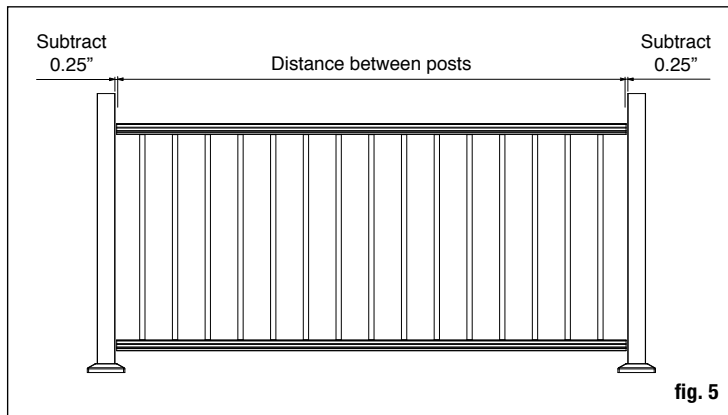
**Step 5** Install the bottom rail between the posts by setting it in the brackets. Snap top trim piece to the rail bracket.

**Step 6** Attach baluster to the lower rail by sliding onto connection (fig. 4).

**Step 7** Position the top rail between the posts. Check for level end-to-end and vertically. Mark the bracket location on post and remove rail. Mark the screw locations using the bracket as a guide, and predrill using a 1/8" drill bit. Attach bracket to the post with three 3/4" screws at one end. Repeat for the other end.

**Step 8** Lower the top rail into position, placing the balusters onto the connectors while working from one end of the railing to the other. Tap with a rubber mallet if needed to eliminate any gaps. Attach the rail to each bracket by predrilling with a 1/8" drill bit and using two 3/4" screws. *Tip: Use a driver extension bit to avoid marring the rail with the drill chuck.*

**Step 9** Set post caps on each post. Gently tap with rubber mallet to secure.



## Stair Railing Installation Instructions

**Step 1** Begin by determining where the top and bottom post will be located. Mark the desired location of the post. *Note: To ensure post location is compatible with railing, prior to securing to the deck, place both posts in position, and lay the bottom rail along the stair nosing from top to bottom adjacent to both posts. On the rail side of the post, measure up from the top of the rail and ensure there is a minimum of 34" to the top of the post. Post location may need to be adjusted to ensure minimum is obtained. Repeat this step for the bottom post.* For a wood deck, position the post so the fasteners will go into the floor joists, and make sure the decking is firmly attached to the joists at the location of the posts. Proper structural blocking/framing under the decking material is required when attaching the post to a wood frame deck because decking alone is not approved as structural framing. Use 49" post for 36" stair railing and 54" post for 42" stair railing.

**Step 2** Four 3/8" diameter mounting holes are provided on the base. When final position is determined, mark hole locations and remove the post assembly. Drill the marked locations into decking and reinforcement braces.

**Step 3** Reposition the post assembly with the leveling plate inserted between the deck and the post base, and aligned with the predrilled holes. Insert the post fasteners (**NOT INCLUDED**), and partially tighten. Using a level, adjust the leveling set screws with a 3/16" allen wrench until the post is plumb. Fully tighten the post fasteners to secure the base to the deck structure.

**STOP: Make sure post base trim is installed before continuing.**

**Step 4** Measure the distance between installed posts to determine the length of the top and bottom rails. Lay bottom rail on stairs with the predrilled holes facing up. The distance between the post and the first baluster should be less than 4" and equal on both ends. Mark the length on top face at both ends of rail using a square or straight edge where it meets the posts. Remove an additional 1.25" at the uphill end of rail, and 1/8" at downhill end of rail, to allow for the stair connectors. Cut bottom rail to length. *Note: The distance from the end of the top rail to the first stair baluster will be 1-1/16" longer than the bottom rail to ensure the balusters are plumb.*

On the cut bottom rail, measure to the underside of the top rail. Add 1-1/16" to this measurement and cut the uphill end of top rail. Measuring from the cut end, mark and cut the other end of top rail to match overall length of bottom rail (fig. 7).

**Step 5** Mark location of the bracket screw holes on bottom rails. Remove bracket. Predrill through the rail only, using a 1/8" drill bit.

**Step 6** Attach each bracket to the post with two 1-3/4" screws.

**For rail kits: Baluster connectors are attached to bottom and top rail, but should be fully tightened by hand to railing before being installed. Do not over tighten.**

**Step 7** Lay bottom rail on stairs against the posts with the predrilled holes facing up. The distance between the post and the first baluster should be less than 4" and equal on both ends. Mark the rail where it meets the inside of the installed brackets. Do the same with the top rail, but with the predrilled holes facing down. Trim the top and bottom rails to length with a 90 degree cut.

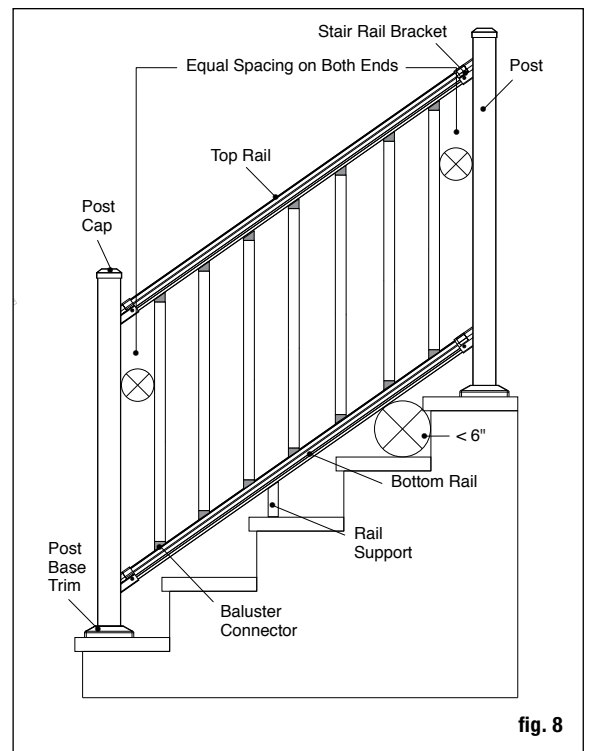
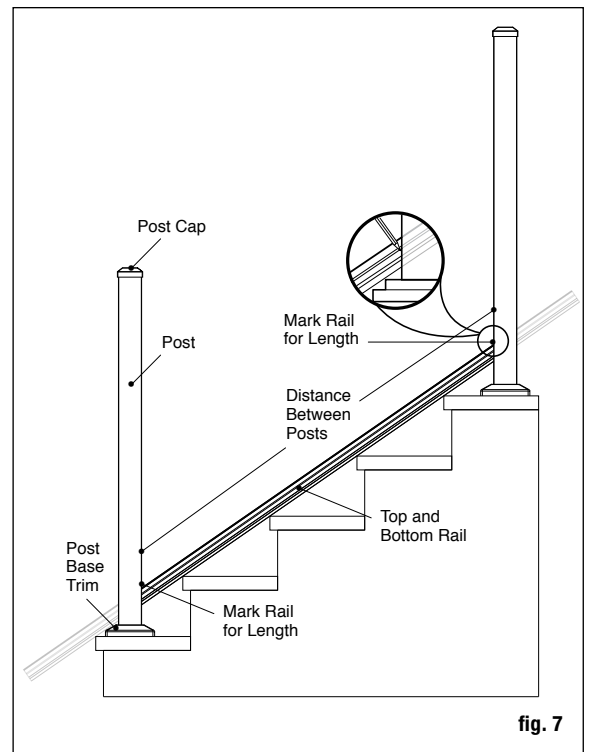
**Step 8** A rail support is needed every 2 feet (2 are included in the 6ft kit, 3 in the 8ft kit). Attach rail support connectors to the bottom of the lower rail at 2 foot intervals using included screws. Pre-drill using a 1/8" drill bit. Mark the location of the rail support on the step tread and attach the other rail support connectors to the step tread.

**Step 9** Install the bottom rail between the posts by setting rail in brackets. Secure bottom rail to brackets using two 3/4" screws. Tip: Use a driver extension bit to avoid marring the rail or post with the drill chuck. Snap top trim piece to the rail bracket.

**Step 10** Attach balusters to the lower rail by sliding onto the connectors. Stair connectors are set at 35°.

**Step 11** Position the top rail between the posts. Check for plumb end-to-end and vertically. Mark the bracket location on post and remove rail. Mark the screw locations using the bracket as a guide, and pre-drill using a 1/8" drill bit. Attach a bracket to the post with two 1-3/4" screws at one end. Repeat for the other end. Lower the top rail into position, placing the balusters onto the stair connectors while working from one end of the railing to the other. Tap with a rubber mallet if needed to eliminate any gaps. Attach the rail to each bracket by predrilling with a 1/8" drill bit and using two 3/4" screws. Tip: Use a driver extension bit to avoid marring the rail or post with the drill chuck.

**Step 12** Set post caps on each post. Gently tap with rubber mallet to secure.



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