



# Refine Rail™ Large Bottom Rail System Installation Instructions

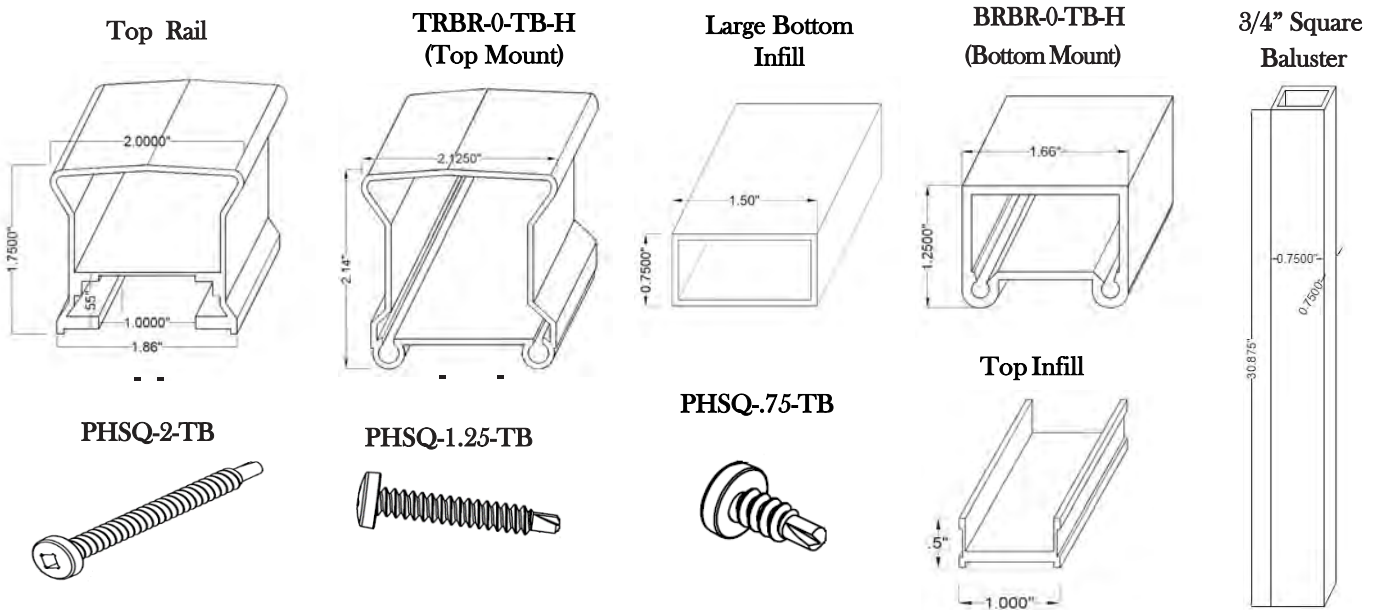
## Level Railing Installation Guide - Large Bottom

- Please read all instructions carefully, before starting installation of the Refine Rail™ Large Bottom Rail System.
- The installer is solely responsible for meeting all code and safety requirements and obtaining all required electrical and building permits. It is also up to the installer to determine which techniques are suitable for each installing situation, and how to implement them. Neither Refine Rail™ nor its distributors are liable for improper or unsafe installations.
- Proper blocking must be in place before mounting posts.
- Rail Sections come in nominal 4ft, 6ft, and 8ft lengths. (Actual rail lengths are 48", 72", and 96" respectively, from end to end of rail).
- The residential default rail height when using the Refine Rail™ Bracket Installation jig is 36-1/8" for linear, and
- Refine Rail™ Aluminum Railings should be installed using building principles in accordance with local building codes and the installation guidelines. Consult your local building code official and check all code requirements before installing railings.
- For questions, contact The Deck Store, the distributor for Refine Rail™ Aluminum Rail System, toll-free at 1-877-432-2311.
- **SAFETY FIRST:** Be safe and follow all instructions, when using power tools. Don't forget safety goggles!

## Recommended Tools for Installation

- Level
- Rubber Mallet
- 1-speed square
- Cordless Drill / Impact driver
- Quick clamp grips
- Measuring Tape
- Miter saw with high tooth count Carbide blade
- 1/8" drill bit
- #2 Square bit 6" long
- T-30 bit (for posts)

## Rail Profiles & Hardware



All fasteners for attaching brackets to posts and rails are included in the box kit. Bolts are also included for each post; other types of anchors may also be necessary, depending on application. The post kit contents will vary by post type. Use a #2 square bit for a sure fit.

**Proper application is the responsibility of the installer!**

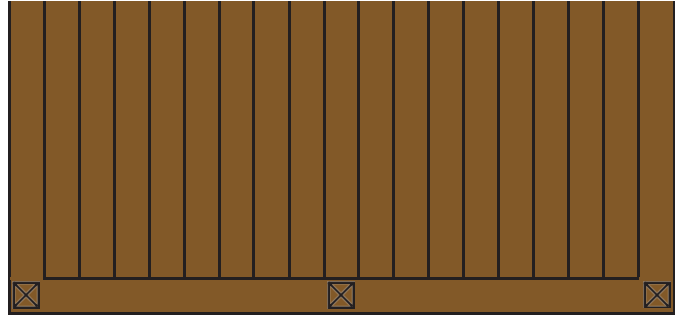


# Refine Rail™ Large Bottom Rail System Installation Instructions

## 3" Post Placement & Installation

### Step 1: Layout

Lay out the placement of the posts. Measure 1-1/2" from the edge of the decking for composite (3-1/2" for cedar). If stairs are involved, it may be beneficial to start with the stairs as they have some variability.



### Step 2: Surface Mounting Post

- Set the post mount in place and mark four mounting holes.
- Pre-drill four holes for the 16x5" mounting bolts (through decking *only*), using a 3/8" drill bit. See Fig. II in the post mounting examples marked below.
- The instructions for wiring are on the next page.



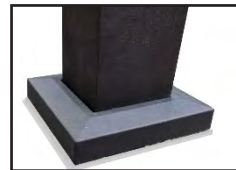
### Step 3: Finished Post

Install the included post caps and skirts for finished look. (The post skirt comes as one piece, and must be installed **before** mounting the railing brackets).

Installed Cap

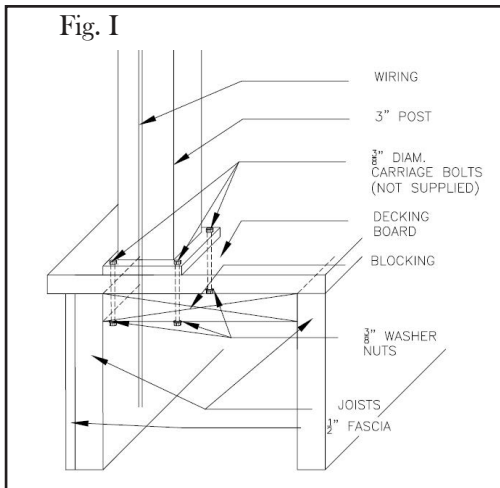


Installed Skirt

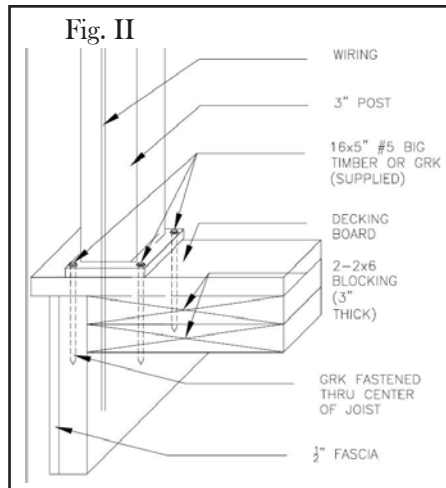


## Post Mounting Examples

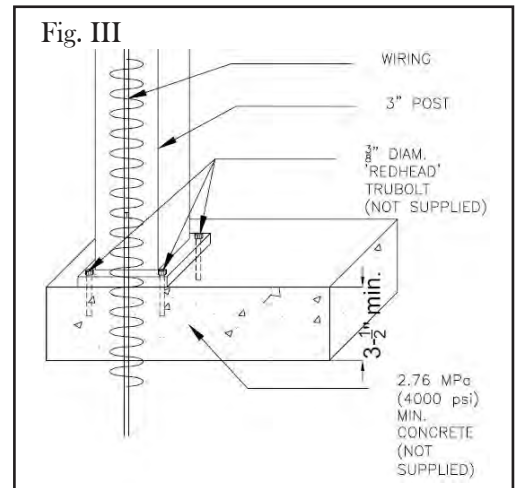
Surface Mount using Carriage Bolt



Surface Mount using Lag Bolt



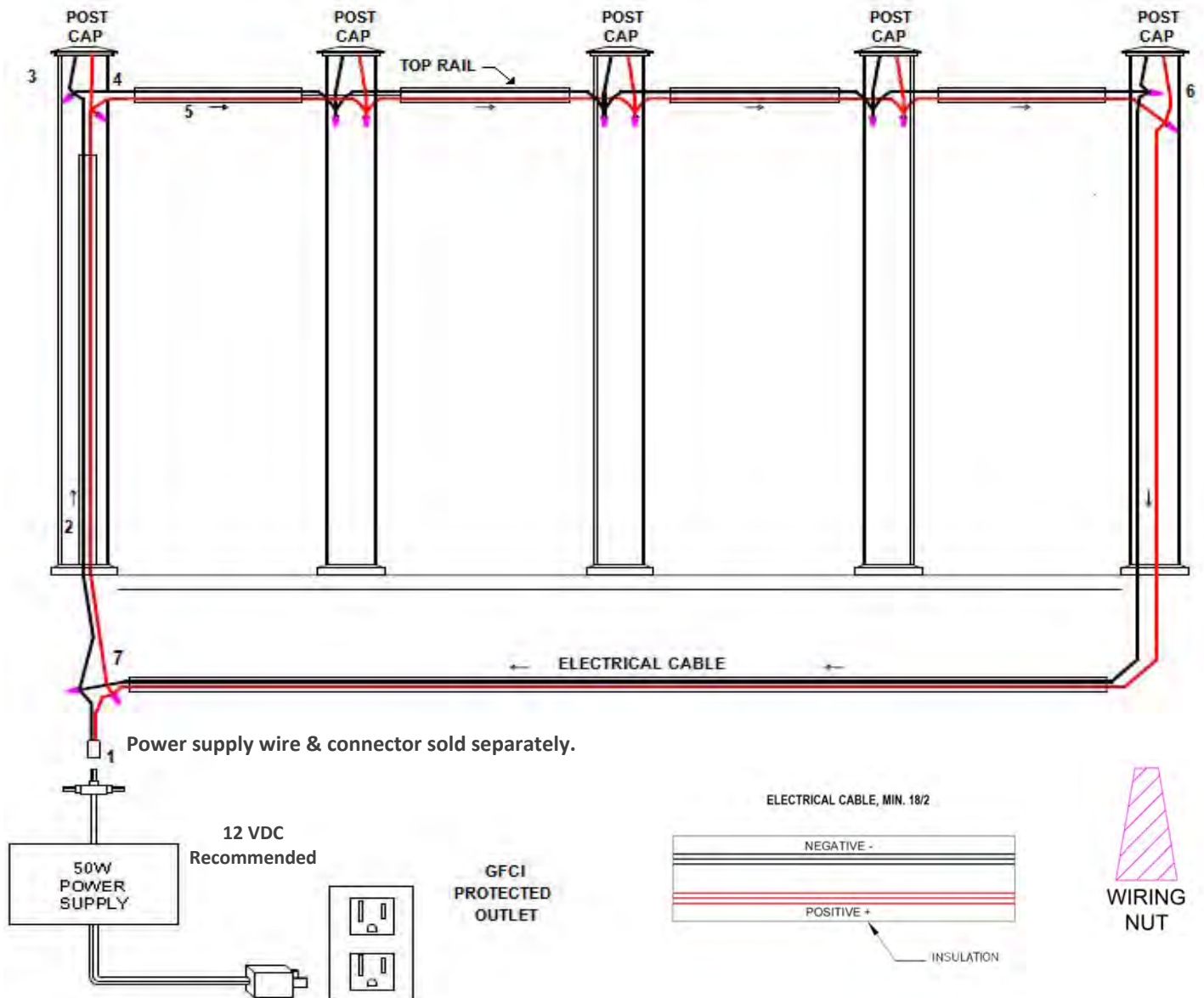
Surface Mount using Concrete Anchor





# Refine Rail™ Large Bottom Rail System Installation Instructions

## Typical Electrical System



1. Inside the power supply, there will be a wire with two female ends. After plugging one female end into the power supply, cut off the other end and strip the insulation to expose the positive (red), and negative (black) wires.
2. After drilling the hole through the decking for the wiring, feed the wires through the hole into the post, and up to the post cap light.
3. After cutting off the female plug on the cap wiring, connect them to the ends of the main wire, attaching the positive wires to the positive (red), and the negative to the negative (black). Cover the exposed wires with a blue waterproof nut (not included).
4. Drill a hole through the post for the wiring where the top rail will be. Do this **before** mounting the rail!
5. Measure the rail sections, and cut off lengths of wiring to pull through the railing. It is recommended to have at least 12 extra inches on each end.
6. Repeat steps #4 - 5 as needed on each post and rail section.
7. At the end post, connect the wire from the end of the rail to the post cap wiring. Then, drill a hole through the decking, and feed the wiring up through the post into the post cap light, connecting positive to positive (red), and negative to negative (black).
8. Finally, connect the other end of the wiring to the transformer, positive to positive (red), and negative to negative (black). After using waterproof nuts, you will have a closed circuit.



# Refine Rail™ Large Bottom Rail System Installation Instructions

## Rail Kit Assembly

### Typical Large Bottom Rail Kit Includes:

- 2 – TRBR-0-TB-H (Top) Rail Mounting Brackets\*
- 2 – BRBR-0-TB-H (Large Bottom) Rail Mounting Brackets\*
- 1 – Infill Panel (48"-72"-96")
- 1 – Top Rail (48" for 4'; 72" for 6' kit; 96" for 8' kit)
- 1 – Rail Support
- 4 – PHSQ-.75-TB
- 2 – PHSQ-1.25-TB (w/ 3pk for 4' kit; 5pk for 6' kit; 6pk for 8' kit)
- 8 – PHSQ-2-TB
- 1 – LFB-TB Level Foot Block (w/ round connectors & PHSQ-.75-TB)



\*Posts for stair brackets not included

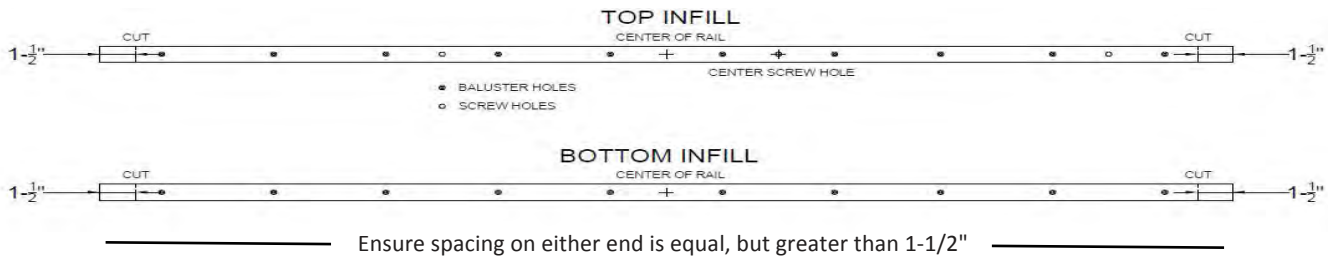
### Aluminum Balusters

- 10 Balusters with 4' kit
- 16 Balusters with 6' kit
- 21 Balusters with 8' kit

(All hardware is included to complete rail kit assembly)

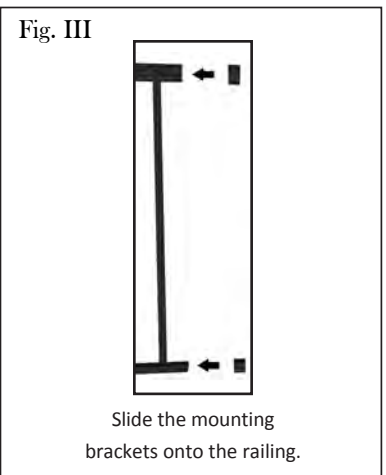
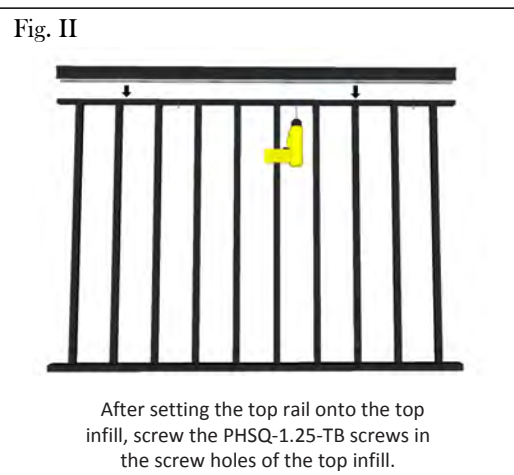
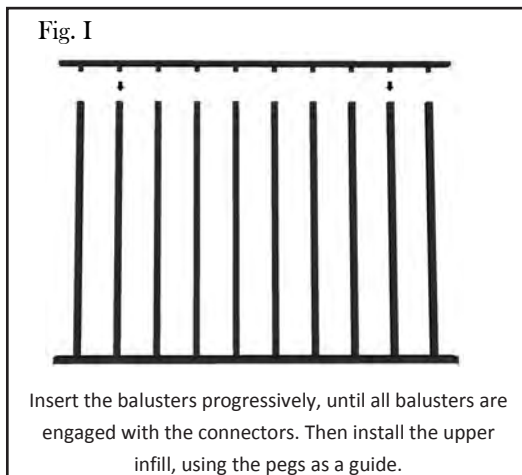
### Step 1: Cut Rails to Size

Measure the distance from post to post and deduct 1/4" from each end of the rail (1/4" accounts for Rail Connector). Measure the bottom rail, to ensure equal and maximum spacing from the end of the rail to the first baluster on both ends of the bottom rail. Make sure that 3" are left on either end, by measuring before cutting. Cut the bottom rail with a metal cutting blade (check the manufacturer's specs for Carbide Blade). Center the rails between or at the baluster, so at least 1-1/2" inches remain at either end, with no connectors. Repeat the previous steps, when measuring and cutting the top rail.



### Step 2: Assemble Rail Kit

Insert the balusters onto the baluster connectors of the bottom rail. Insert the first two balusters from one end of the top rail, and progressively work your way to the other end to attach the top rail to the balusters. After all of the connectors are engaged with the balusters, set the top rail onto the top infill, and use 1-1/4" screws, so that the screws don't go through the top rail. Finally, slide the mounting brackets onto either side of the now-assembled panel.





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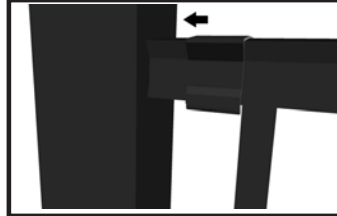
## Mounting Rail to Post

### Step 3: Attach Brackets to Post

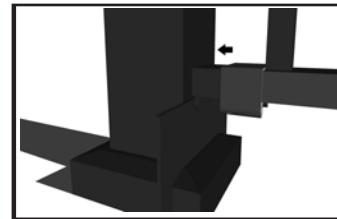
Hold the Refine Rail™ jig to the post, and secure it with a clamp. After placing the assembled rail into position and sliding the brackets against the post, drill the top bracket with the PHSQ-2-TB screws, using the 6" long drillbit. Do the same with the bottom (BRBR-0-TB-H) rail mounts.



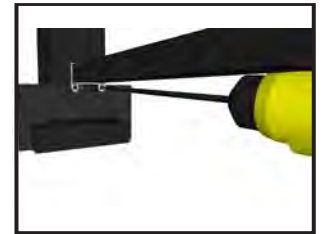
1. Refine LBR Jig



Top



Bottom



2. Slide both brackets to the posts.

3. Attach brackets

### Step 4: Secure Assembled Rail into Brackets

After the brackets are mounted to the post, drill the PHSQ-1.25-TB screws into the top brackets, and the PHSQ-.75-TB screws in the bottom bracket holes to secure the railing, as shown in the illustrations to the right.



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