

LEVEL INSTALLATION INSTRUCTIONS

WARNING: ALWAYS WEAR SAFETY GOGGLES!

CAUTION: The horizontal rails of this product are not made to stand, sit or climb on. Doing so could damage the product and result in personal injury.

1.

Determine the desired rail placement and snap a line on the deck to ensure all posts are aligned properly (Fig. 1). Ensure sufficient mounting structure exists in areas to receive posts. Install blocking where necessary. Plumb the posts, using the shims provided, and secure all posts in place (Fig. 2).

Note: Post kits include leveling shims and rail panel attachment hardware, post mounting hardware sold separately.

Tip: Shims can be easily cut using a wood chisel.

Tip: Post flanges are manufactured to accept $\frac{3}{8}$ " diameter stainless steel or hot dip galvanized fasteners, be sure to use the appropriate fasteners for your installation. Check local building codes for load requirements.

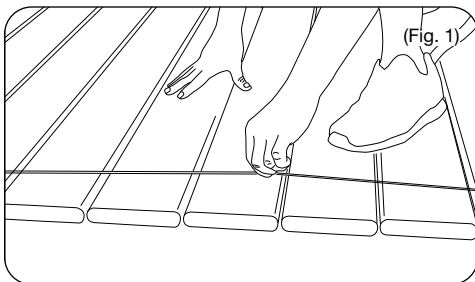
2.

Place rail panel across the opening and adjust to ensure equal space to the center of the panel (Figs. 3). Mark each end of the rail panel $\frac{1}{4}$ " from post face to allow for bracket and/or weld clearance (Fig. 4). Measure from this mark to the end of the rail, subtract $\frac{1}{2}$ " and record this number for rod cutting step. If posts are plumb and panel is centered this measurement will be the same for all 4 rails.

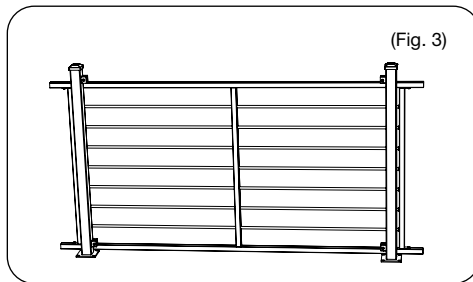
2b.

Remove uprights. Remove #10 hex screws ($\frac{5}{16}$ ", 8mm socket) from both top and bottom of uprights (Fig. 5). Retain these screws for reattachment later. Any bushings that remain on the rods, remove and insert them back into the upright. Measure AND MARK from the end of each rod the recorded measurement from earlier in this step (Fig. 6). Do this for both ends of the panel. Cut rods. Rods can be cut with an angle grinder with a metal cutting disk (Fig. 7). Make sure rods are free of burrs.

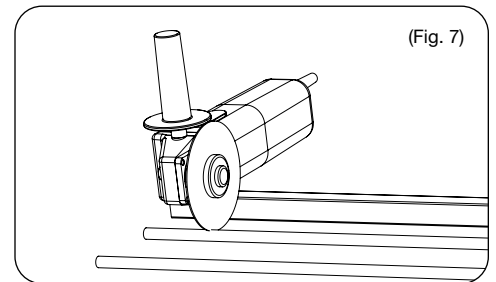
It may be helpful to carefully lay the panel down and use blocks of wood between the rods or if space permits reattached the upright to keep them from moving during the cutting process (Fig. 8).



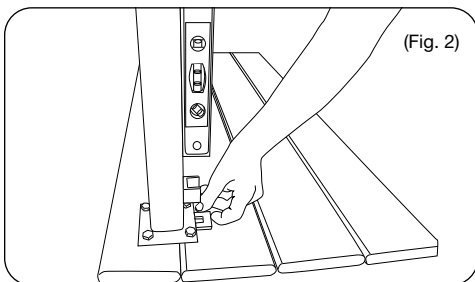
(Fig. 1)



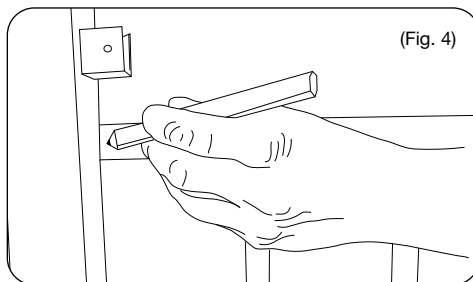
(Fig. 3)



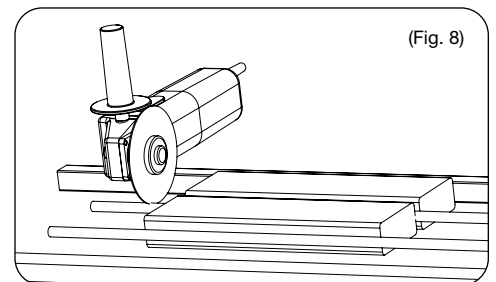
(Fig. 7)



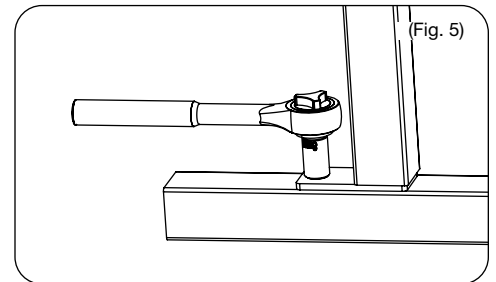
(Fig. 2)



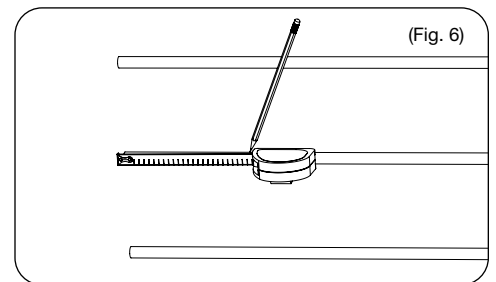
(Fig. 4)



(Fig. 8)



(Fig. 5)



(Fig. 6)

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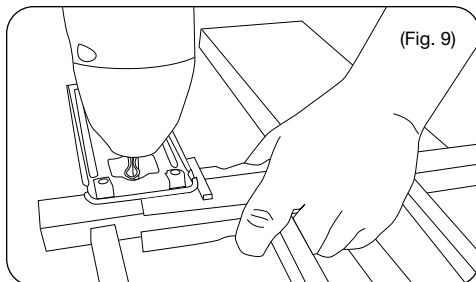
WARNING: ALWAYS WEAR SAFETY GOGGLES!

2c.

Before cutting the rails to size, protect the rail surface from marring while cutting. The RDI RAIL CUTTING JIG (73018283) is available through your Excalibur dealer.

Hold the tool firmly and place the sole plate of your jig saw against the saw guide portion of the tool, cut the excess material from the end of the cutting tool.

The tool is now fitted to your saw for consistent and repetitive use without marring the rail finish. This tool will help in effectively and accurately cutting any similarly sized rail system. Snap the cutting tool over the rail and cut at your mark. Repeat for the remaining 3 ends (Fig. 9).



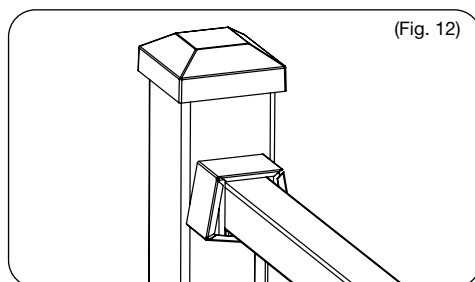
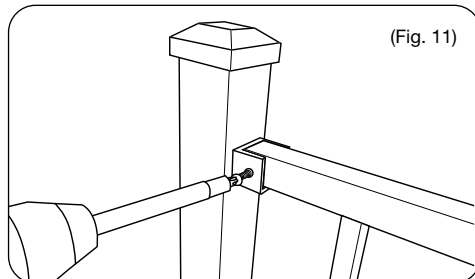
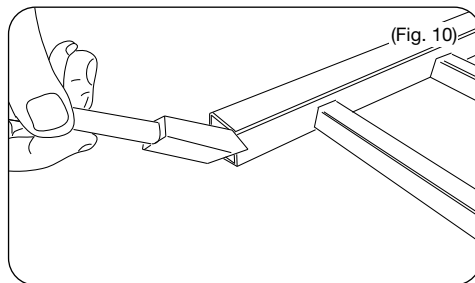
3.

Test fit the rail panel. Once a proper fit is ensured all cuts must be painted prior to final installation (Fig. 10).

Reattach the uprights to each side of the panel. Ensure rods are all fully seated into the bushings. A light tap with a rubber mallet may be needed. Mark the new location of the attachment holes for the uprights and pre-drill with a $\frac{5}{32}$ " drill bit. Secure the uprights with #10 hex screws removed earlier.

Set the panel in place. Pre-drill the screw holes using a $\frac{5}{32}$ " metal drill bit. Secure with the supplied panel attachment hardware (Fig. 11) (2 screws per bracket).

NOTE: Rail ends may be painted with any zinc rich primer or paint. For MATTE BLACK touch-ups, we recommend Rust-Oleum®, Satin Canyon Black, Color Code 249844. For BRONZE touch-ups, we recommend Rust-Oleum®, Hammered Brown, Color Code 210880.



4.

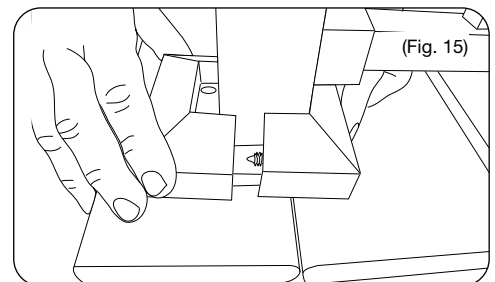
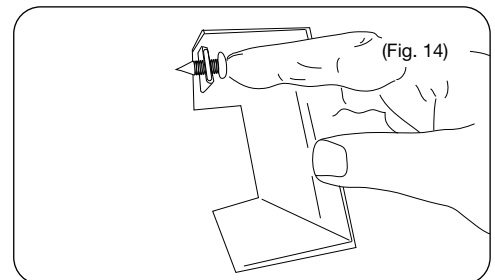
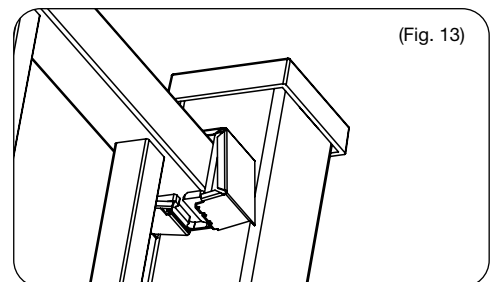
Spread the bottom of the bracket cover approximately 1". There are two different clips on the bottom side of the bracket, a solid band (left side) and a 3 finger band (right side). Wrap the cover around the rail as close to the post as possible (Fig. 12).

Hook the solid band (left side) of the clip into the underside of the bracket first. Squeeze the cover together from the sides until the 3 finger band snaps into the underside of the bracket (Fig. 13).

To remove, disengage the solid band (left side) first then reverse installation steps to complete removal. Note: a flat head screw driver may be needed to disengage the 3 finger clip to begin the removal process.

5.

Assemble the 2 piece post trim cover by inserting one fastener in each trim half (Fig. 14). Snap these in place (Fig. 15) concealing the post flange.



LEVEL BRACKET

1.

Establish the placement of the bottom of the level panel based on your desired rail height. Mark a line on your mounting surface at this height plus $1\frac{1}{8}$ " to represent the top of the mounting bracket (Fig. 16).

Make an intersecting mark representing the desired center line of your installed rail panel. Set the bracket in place, centering it on the mounting surface with the aid of the line previously drawn. Attach using 2 fasteners appropriate for the material to which you are installing the bracket (Fig. 17).

2.

Mark the post $34\frac{1}{8}$ " ($34\frac{1}{8}$ " for 34" high panels or $40\frac{1}{8}$ " for 40" high panels) from the bottom bracket attached in Step 1 (Fig. 18 & Fig. 19). Make an intersecting mark representing the desired center line of your installed rail panel (this mark is the top of the bracket). Attach the top bracket as you did the bottom in Step 1.

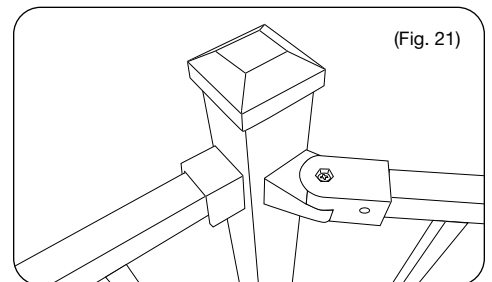
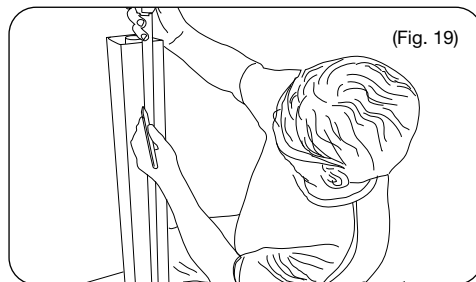
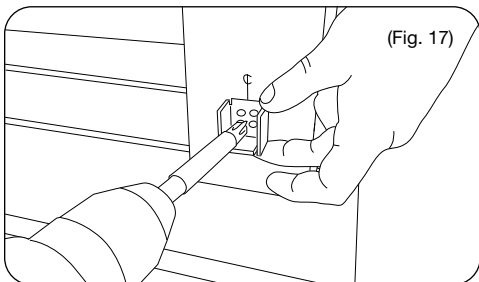
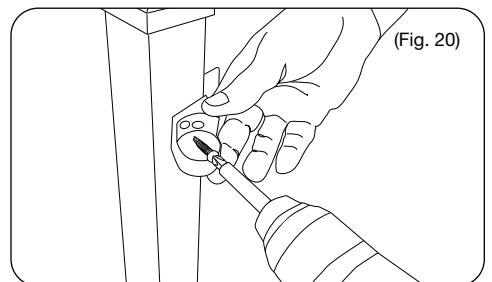
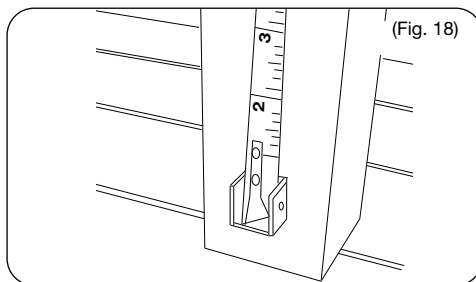
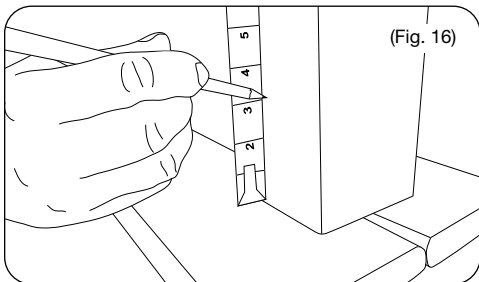
Refer to Step 2 in the level rail instructions to complete your installation from this point.

LEVEL ANGLE

1.

The level angle bracket is the same bracket as the stair bracket described above. Level angle mounting varies greatly on each installation.

Test fit your rail panels and cut to length for your specific installation. Follow the general methods described above to complete your angle installation (Figs. 20 & 21).



STAIR INSTALLATION INSTRUCTIONS

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1a.

Remove uprights from panel. Remove hex (#10) screws from top and bottom of both uprights and remove one upright. Take note of the orientation of the uprights as they are made to hinge one way. They will need to be reassembled later in the same orientation. Remove all horizontal rods from the panel and set aside. Remove second upright. This will leave only the top and bottom rails connected to the hinged center support. Use care when handling the panel with uprights removed.

1b.

Place a plank on the stair noses spanning from post to post. Place the stair panel on the plank across the opening and adjust for plumb ensuring equal distance from the center support to each post. Clamp the panel in place at this location (Fig. 1).

Note: Use the proper plank thickness to ensure the proper finished rail height. Check local building codes for stair rail height requirements.

2.

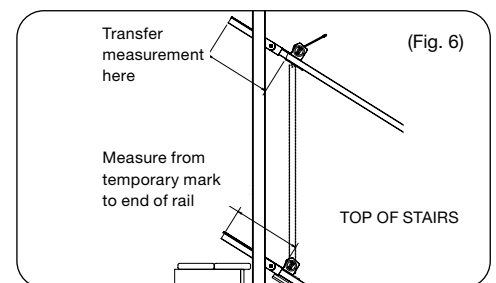
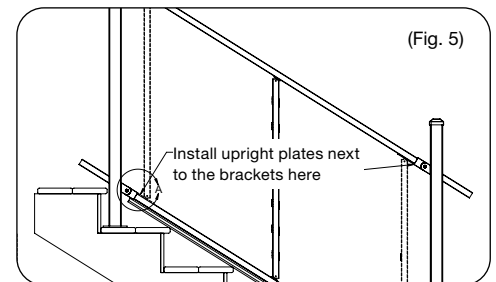
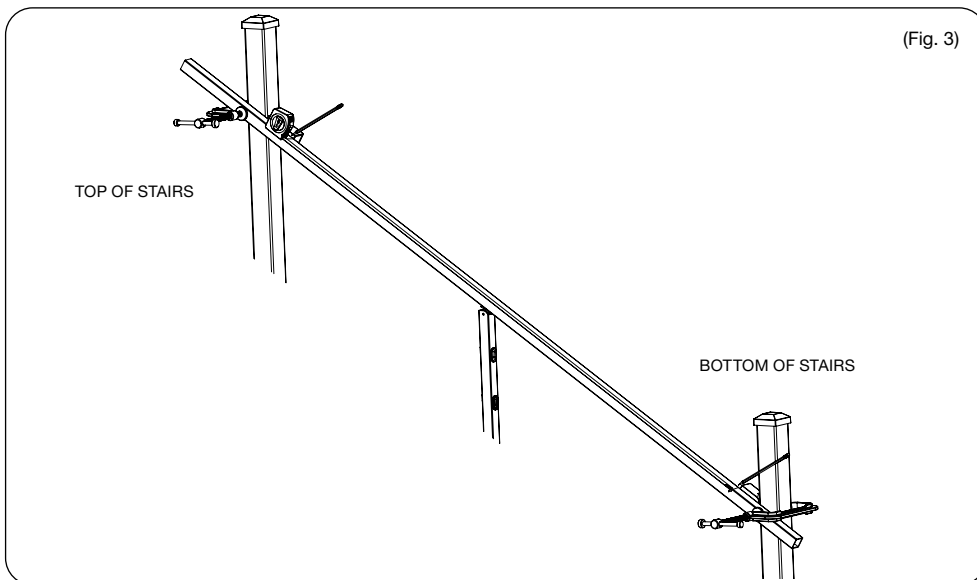
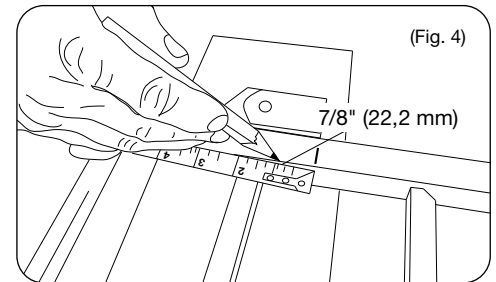
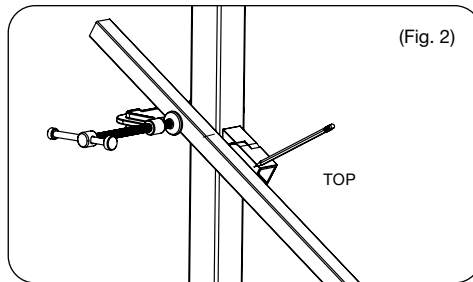
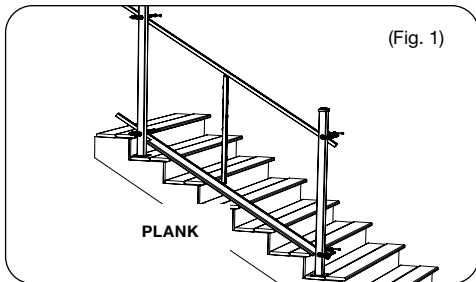
Assemble a stair mounting bracket. Hold the bracket (angled end) against the post face and in line with your stair panel, mark the rail at these locations. Repeat this for all 4 rail ends. Be sure to label the top end of the top rail before removing it (Fig. 2). These marks will be temporary, no cuts will be made here. Measure the distance between these marks and subtract 4" (Fig. 3). Record this measurement for the rod cutting step.

3a.

Add $\frac{7}{8}$ " (toward rail end or post) to the marks made on the rail panel in Step 2 (Fig. 4).

3b.

The temporary mark (from Step 2) made on the bottom rail at the top of the stairs will be where you will align the bottom mounting plate of the upright for the top of the stairs (Fig. 5). Measure from this point to the end of the bottom rail. Use that measurement to measure from the end of the top rail at the top of the stairs that same amount and make a mark. This will be the mark used to attach the top bracket of the upright (Fig. 6).



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3c.

Now go to the mark made on the top rail at the bottom of the stairs. This mark will serve as the point to place the top mounting bracket for the upright at the bottom of the stairs (Fig. 5). Measure from that mark to the end of the top rail. Use that measurement to measure from the end of the bottom rail at the bottom of the stairs and make a mark. This will be the alignment point for the bottom bracket for the upright (Fig. 7).

3d.

Cut rails at marks made in step 3a. Cut all rods to the length recorded in Step 2. Insert the cut panel ends into the stair brackets ensuring all are properly oriented. Test the panel to ensure proper fit. Mark the position of the bracket on all 4 posts (Fig. 8).

4.

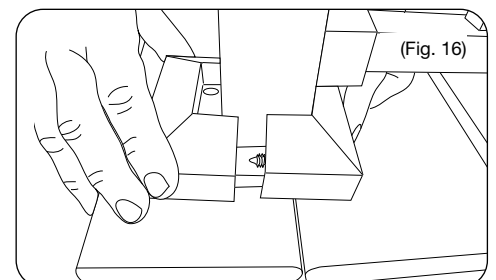
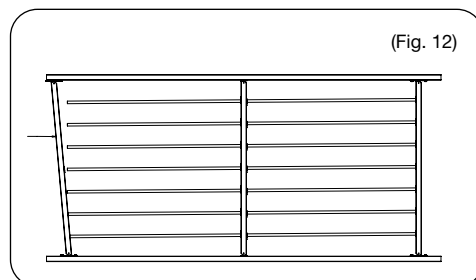
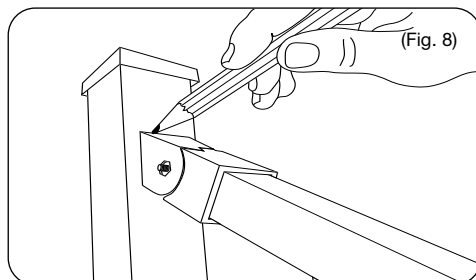
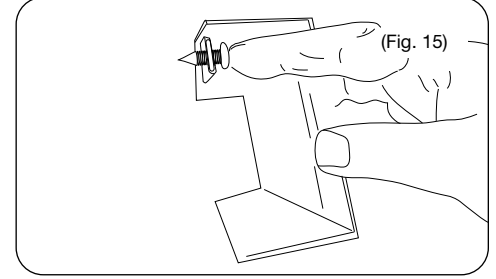
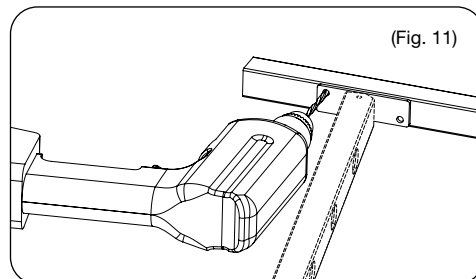
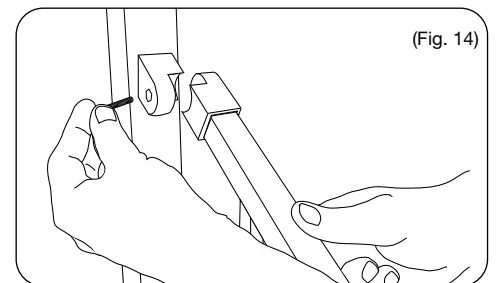
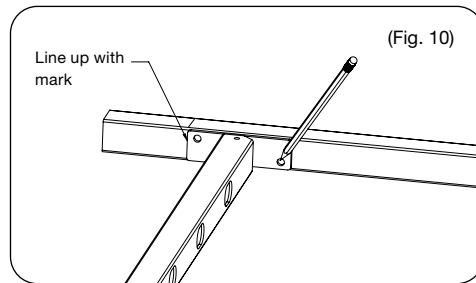
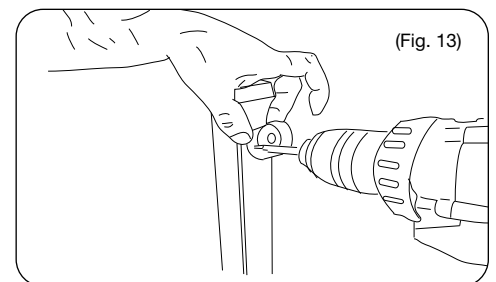
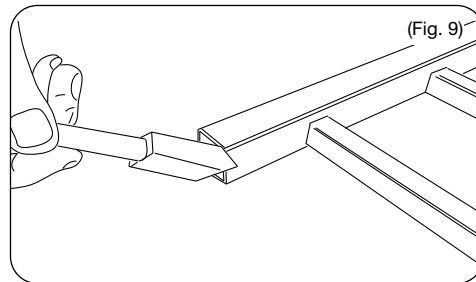
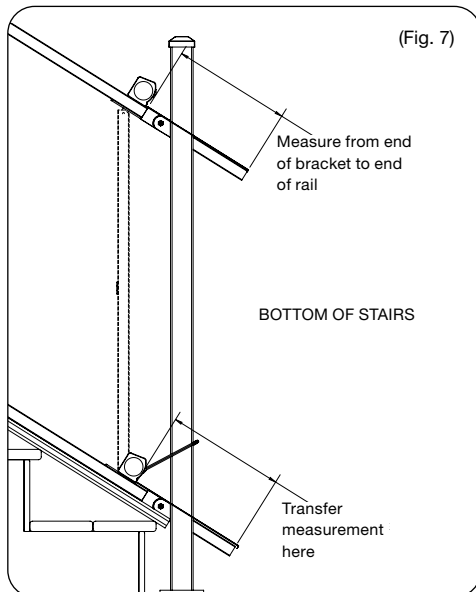
Once proper fit is ensured remove the brackets from the rail. Paint all cut ends of rails and rods (Fig. 9). Lay the panel on a flat clean surface and use the marks made in step 3b to align both uprights. Mark the holes for the upright attachment screws (Fig. 10) pre-drill the holes with a $\frac{5}{32}$ " drill bit (Fig. 11). Reattach one upright with #10 hex screws removed earlier. Insert all rods through mid support and into the attached upright. Slide second upright into place and insert all rods into it (Fig. 12). Line the upright mounts up to the pre-drilled holes and reattached the upright.

5.

Separate the two bracket halves at all rail ends. Install the post half of each mounting bracket at the marks made in step 3 (Fig. 13) ensuring all brackets are properly oriented. Now set the panel back into place and re-attach the bracket halves (Fig. 14).

6.

Assemble the 2 piece post trim cover by inserting one fastener in each trim half (Fig. 15). Snap these in place (Fig. 16) concealing the post flange.



ENGLISH