

# Cooper *stairworks*



## Prefit Rail Installation Instructions



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# Notice:

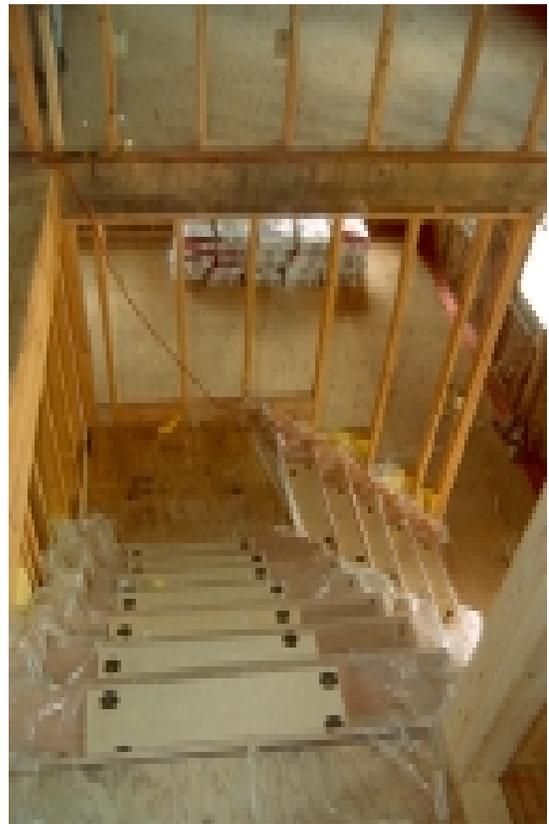
Attached Prefit Rail Installation Instructions are for Rail Systems with 3 to 3-1/2” square newels. Post position varies with larger sizes.



The following instructions correspond to this typical staircase.



14 Riser “L” shaped stair set in rough, wrapped in plastic



Same stair looking down from the top. Rake rail ends into wall at top, with balcony rail on other side.

The rail system is usually installed after the house is sheetrocked / plastered. In the following instructions we have removed the wrap entirely to clarify the photos, but we suggest you simply turn it back.

# Step 1

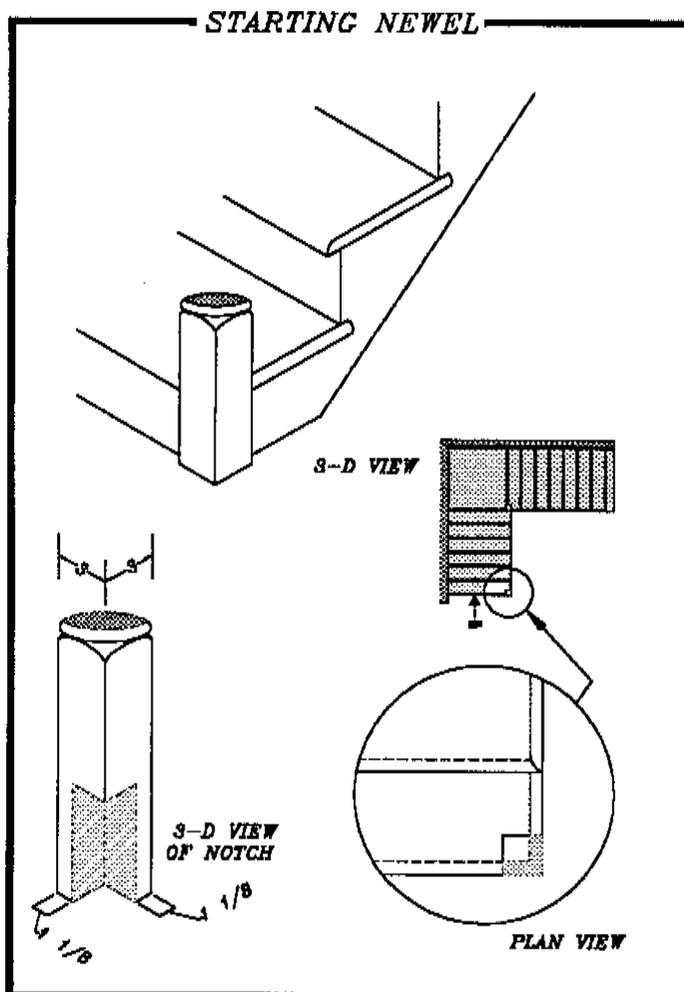
## Install Starting Newel(s)

Position starting newel as in *photo 1* (see drawing below) and check for plumb and square. Slight adjustment may be required if stair is not perfectly level in both directions. Apply glue in notch and fasten with two screws from each side. Place one into tread and one near lower corner as in *photo 2*.

*Photo 1*



*Photo 2*



# Step 2

## Install Intermediate Landing Newel(s)

Position the intermediate landing newel (refer to intermediate landing newel draw-

ing), checking fit, plumb and square as in **photo 3**.

Cut filler block supplied with the newel to fit into the void at base of the intermediate landing newel as seen in **photos 4 & 5** and attach to post with glue and

spring clamp as shown in **photo 6**. Apply glue in notch and fasten with screws, as in **step 1** using an additional screw in lower section into top riser of lower stair and platform header.

Photo 3



Photo 4

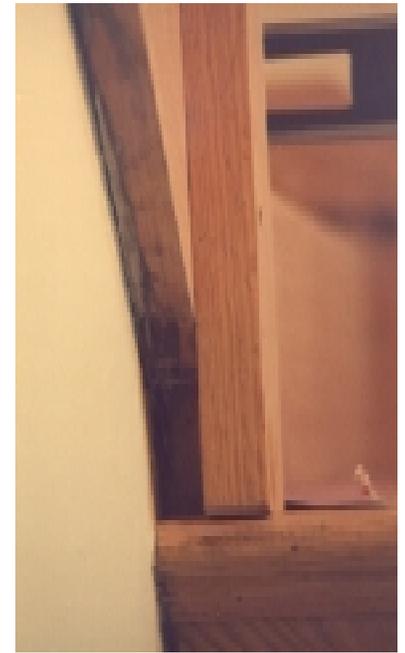
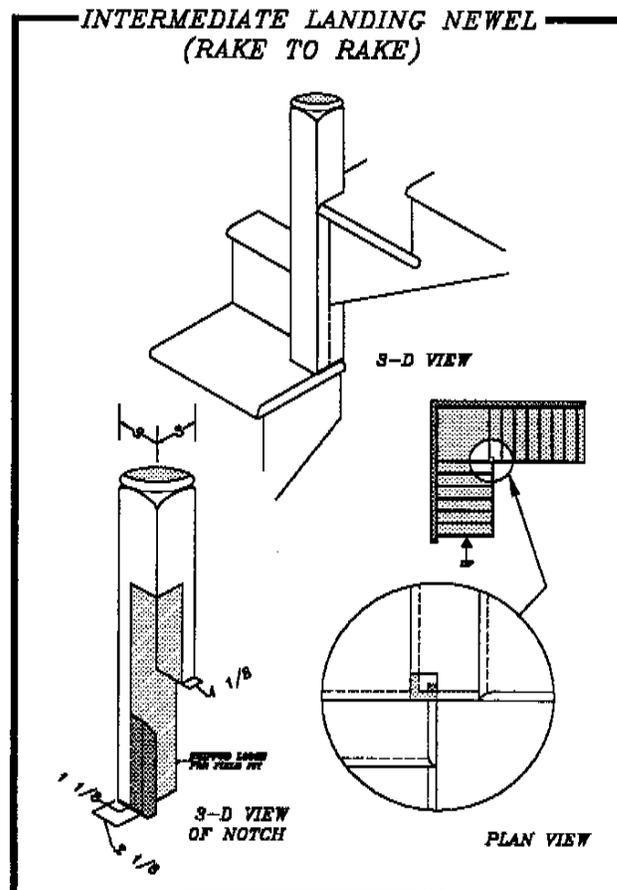


Photo 5



Photo 6

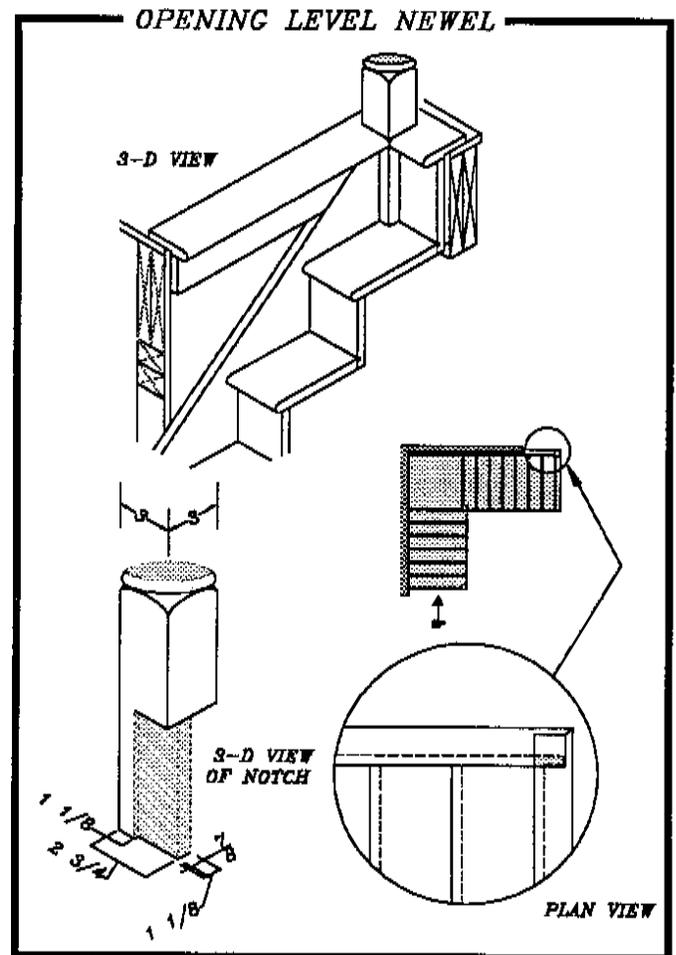


# Step 3

## Opening Level Landing Newel

Cut top riser and stringer as marked and slide opening landing newel down into position, (see drawing below) checking for square and plumb. Apply glue and fasten through post into stringer of stair and header as in *photo 7*.

*Photo 7*



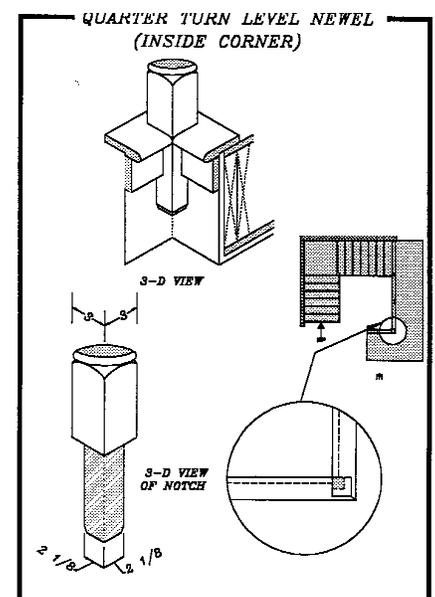
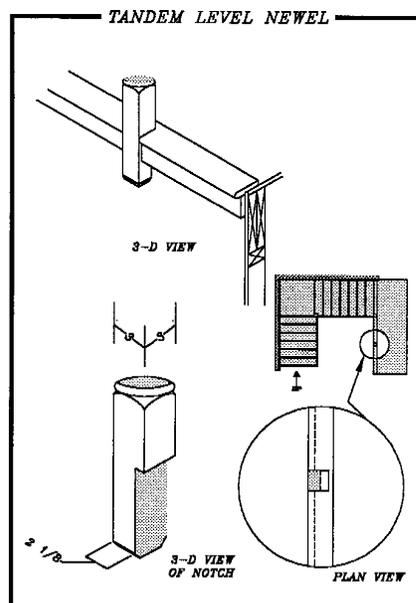
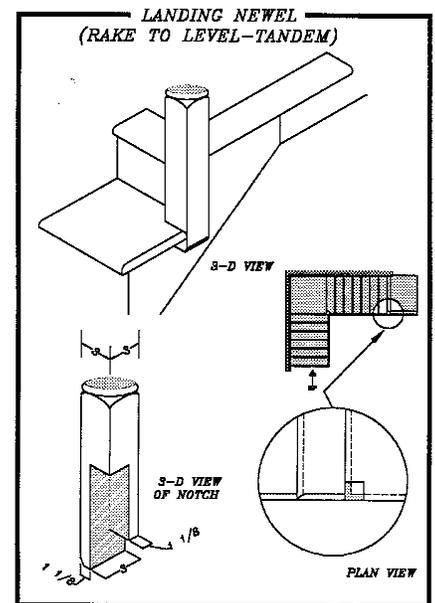
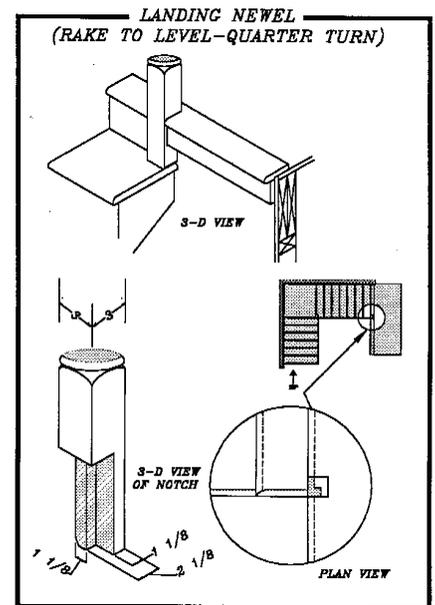
# Step 4

## Other Level Landing Newel(s) and Landing Tread

Locate and Position other posts (see newel drawings) using the same techniques as instructed above. If the level rail system has more than one post it is best to work from one end around the well opening installing a post, fitting a landing tread section and repeating these steps to avoid being required to fit in between two fixed points. Notch landing treads around newels and walls fitting tightly. Fastening posts and landing treads works best if done in the same order as fitted keeping newels plumb and square. Be sure to glue down all landing treads to the floor and top of riser as shown in *photo 8* and fasten with screws or nails. This serves to add strength to the rail system and prevents squeaking.



*Photo 8*



# Step 5

## Facias and Moulding

Once the landing tread is fastened the fascia should be fitted and fastened to the header as shown in *photo 9*. Shim as needed to assure the landing tread is level across its width and supported prior to installing the scotia. This provides for solid installation and good fit of the balusters.

*Photo 9*



# Step 6

## Rake (pitch) Rails

Clamp a stick to the newel to seat the pitch cut end of the rail in position as shown in *photo 10*. Prop the rail parallel to the stair (a framing square held on the nosings of the treads can be used as a gauge) and mark it for length. Cut the rail to length, check for proper fit at both ends, and fasten to the newels with screws. All the balusters are shipped long. Take the time to separate the different lengths and match them to their locations now. Cut the pin on the bottom of the correct length baluster to about  $\frac{1}{2}$ " and insert it into the tread. Aligning it with the hole above mark it to extend into the rail about  $\frac{1}{2}$ " to  $\frac{3}{4}$ " as shown in *photo 11* and repeat for each length baluster and cut to length. Carefully place glue on the pin of the baluster or around the edge of the hole in the tread, twist the baluster up into the hole in the rail and down into the tread as shown in *photo 12*. Nail the balusters at the top and bottom as shown in *photo 13* and the adjacent sketch, being sure to eye the rail straight.

*Photo 10*



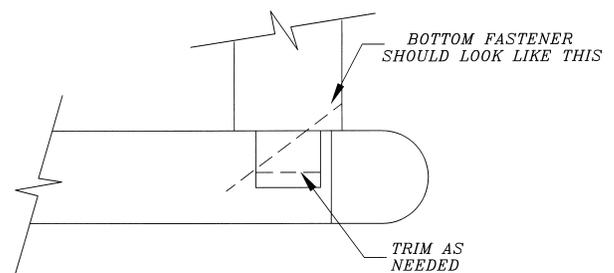
*Photo 11*



*Photo 12*



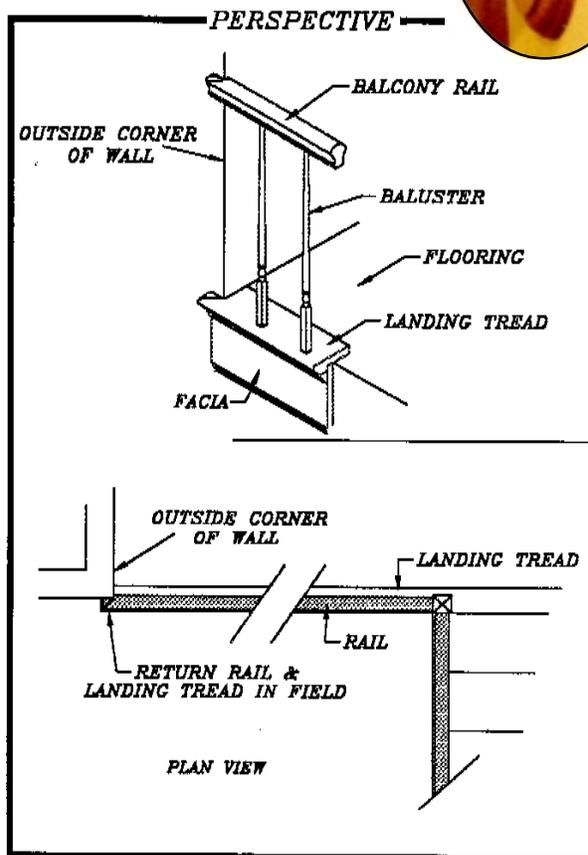
*Photo 13*



# Step 7

## Level (balcony) Rails

Cut and fit the rails between the newels and walls using a prop against the wall or a stick clamped to the posts as before to support the rail while marking and fitting. Where the rail dies into a wall as in *photo 15*, a rosette can be used. If the rail dies into an outside corner the rail is “returned” to the wall as is the landing tread, fascia, and scotia (see perspective and plan view drawing). Mark the center line of the balusters and use dividers as shown in *photo 14* to space the balusters evenly along the landing tread taking care to try to match the spacing on the stair as closely as possible. By starting with the shortest run you will deal with the most restrictive distance first. Layout all balusters before drilling any holes. Plumb the marks from the landing tread up to the fitted rail and mark the hole centers on the bottom of the rail. Remove the rail and bore the proper size holes in both the rail and the landing tread. The rail can now be fastened in place and the balusters installed as before.



*Photo 14*



Installer laying out baluster spacing on balcony with dividers.

*Photo 15*



Bore holes necessary and insert balusters as on stair.