

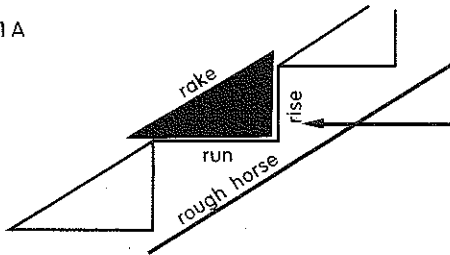
RUN, RISE AND RAKE

The three R's of joining stair fittings with handrail

To determine the proper cuts on HANDRAIL and FITTINGS follow these steps

PITCH BLOCK

Fig. 1 A



STEP ONE

Cut a Pitch Block. This must be of the same run and rise as the stairs. Pitch block may be taken from the rough stair horse, (if one is used), see Fig. 1 A.

STARTING EASINGS

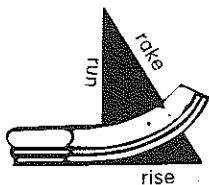
Fig. 2 A



STEP TWO

Set Starting Easing, Turnout, or Volute on a flat surface. Place the Pitch Block under fitting as shown in Fig. 2 A. At the point of contact mark for location of cut.

Fig. 3 A



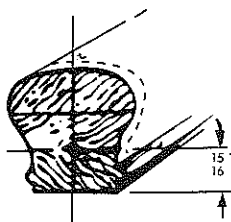
STEP THREE

For the proper angle of cut on The fitting turn the pitch block as shown in Fig. 3 A the rise edge on the flat surface. Place the rake edge at previously marked location and draw a line along rake edge.

This is the cut guide line, straight rail joins at this point.

DRILLING TEMPLATE

Fig. 4



STEP FOUR

Make a template, cut a wafer approx. 3/16" thick from a section of handrail. Bore a small hole where indicated in Fig. 4. Use to locate rail bolt holes to insure proper alignment.

STEP ONE

Place the gooseneck on a flat surface with the vertical rise portion flat on the work surface. See under fitting with the rise edge on the work surface. At the point of contact, with the rake edge, mark for location of cut.

STEP TWO

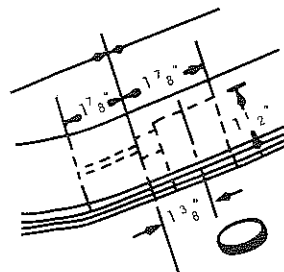
For the proper angle of cut on the fitting, turn the pitch block as shown in Fig. 2 B, the run edge on the work surface. Place the rake edge at the previously marked location and draw a line along the rake edge. This is the cutting guide line, straight rail joins at this point. Rail and fitting are joined in same manner, using rail bolt, as step 4 and 5.

DRILLING RAIL SYSTEM FOR BALUSTERS

Drill a pilot hole, 5/8" through the pitch block at right angles to the run edge. See Fig. 3 B. Mark the centerline of this hole on the face of the pitch block. Cut a portion of the pitch block on a line parallel to the rake edge as indicated in Fig. 3 B.

Center boring jig under handrail. Plumb the centerline of the guide hole. up from tread layout, and clamp to handrail. Bore 5/8" deep hole in handrail to receive baluster. Proceed with balance of balusters in similar manner.

Fig. 5



ATTACHING FITTING TO STRAIGHT RAIL

STEP FIVE

Drill 1/4" hole in end of fitting, square with face of cut, as shown. Drill 3/8" hole in end of straight rail as shown.

A 1" hole in bottom of straight rail to the depth indicated.

1 or 2 RISER GOOSENECKS

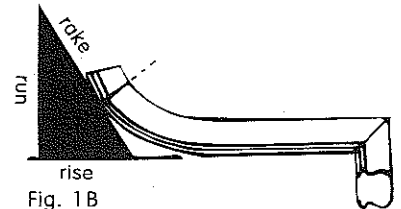


Fig. 1 B

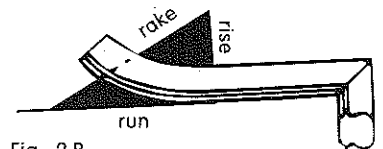


Fig. 2 B

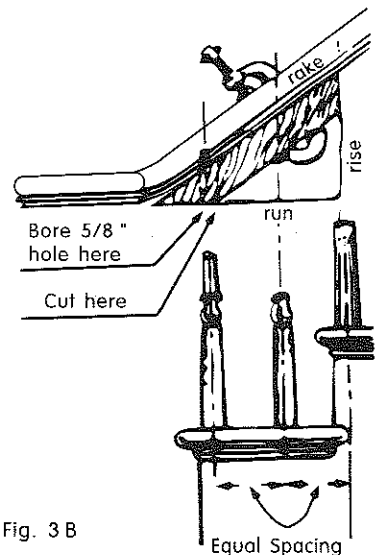


Fig. 3 B



RAIL BOLT

(furnished)

Turn lag end of rail bolt into fitting. one half it's length. Threaded end, washer, and nut are used in straight rail. Align, tighten and plug

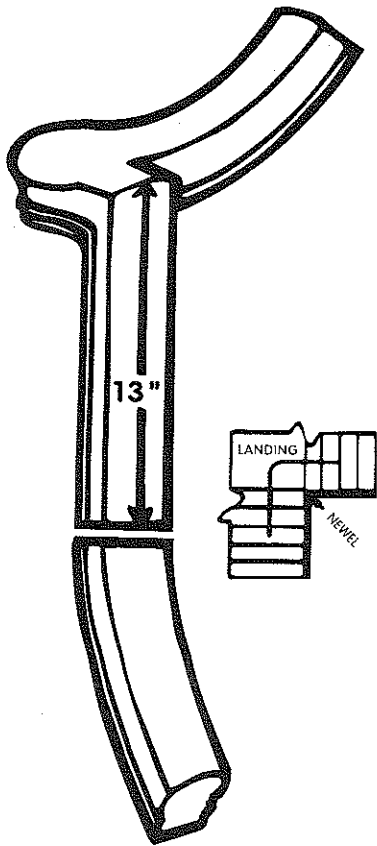


Fig. B

All 2 rise gooseneck fittings are made with a 13 " drop rail (Fig "B") which allows for exact on-the-job cutting to insure proper installation. By having the 13 " drop to work with, the gooseneck can be used in a stair with a 8 " rise as well as a stair with 6 1/2" rise.

For example: A stairway having a rise of 8 " will require a rail drop of 10 1/2 " long. Whereas a stairway with a rise of 7" will require a rail drop of 9 1/2 " long.

To determine the proper length needed for a 2 rise gooseneck, subtract the difference between your rise, (assume it's 7 1/2 ") and 8" rise $8 - 7\frac{1}{2} = \frac{1}{2}$ ", multiply the difference times 2 for a 2 rise gooseneck. Thus $2 \times \frac{1}{2} = 1$ ". Subtract the 1" from 10 1/2 " which shows a 9 1/2 " is needed. After the correct rail drop length is made, the enclosed easement is ready to attach with one of three rail bolts provided.

Rise	Rail Drop (Fig "B")
8"	10 1/2"
7 3/4"	10"
7 1/2"	9 1/2"
7 1/4"	9"
7"	8 1/2"
6 3/4"	8"
6 1/2"	7 1/2"

By following the above instructions your handrail will maintain the proper height with a smooth "flow" between the railing.