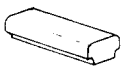
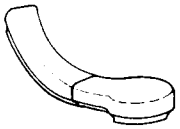
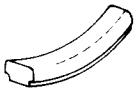
Artistic Stairs & Handrails Inc.

435 E. 58th Street
Los Angeles, CA 90011

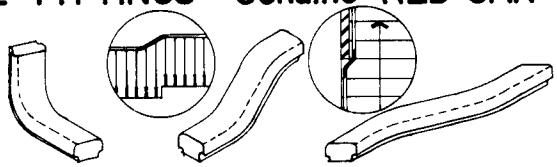

18 END RAIL


19 LEVEL TO RACK STARTING CAP

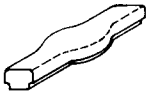

20 QUARTERTURN

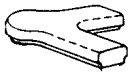

21 LEVEL TO RACK

HANDRAIL FITTINGS - Genuine RED OAK


23 LEVEL TO PLUMB 90°
24 EASEMENT UP & OVER
25 -S- BEND


26 STARTING CAP

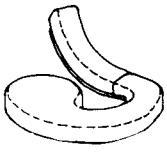

27 TANDEM CAP

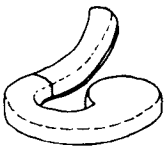

28 QUARTERTURN CAP

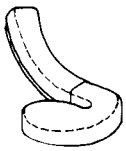

29 RACK TO PLUMB

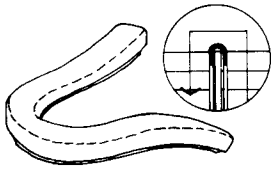

30 -T- CAP

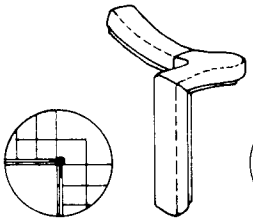

31 TURNOUT CAP L.H. SHOWN
32 R.H. OPPOSITE

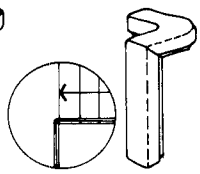

33 VOLUTE L.H.

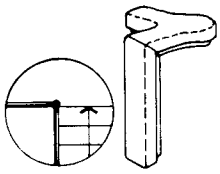

34 VOLUTE R.H.

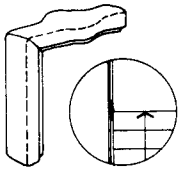

35 TURNOUT L.H. SHOWN
36 R.H. OPPOSITE

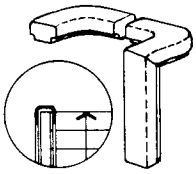

37 RACK TO RACK R. TO R. SHOWN
38 L. TO L. OPPOSITE

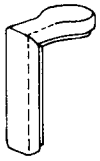

39 RACK TO RACK WITH CAP L.H. SHOWN
40 R.H. OPPOSITE

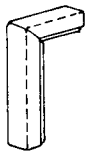

41 RACK TO LAND'G L.H. SHOWN
42 R.H. OPPOSITE


43 L.H. WITH CAP SHOWN
44 R.H. OPPOSITE

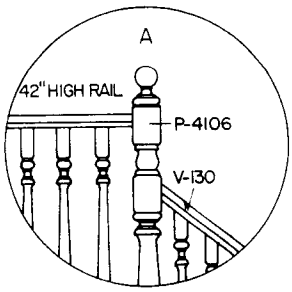

45 WITH CAP

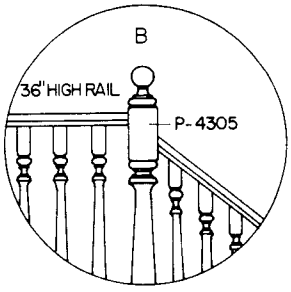

46 L.H. SHOWN
47 R.H. OPPOSITE

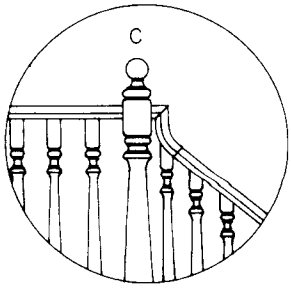

48 WITH CAP

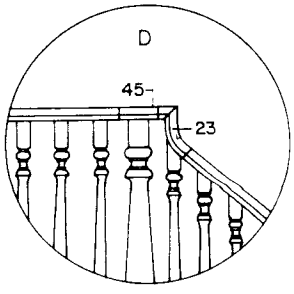

49 WITHOUT CAP

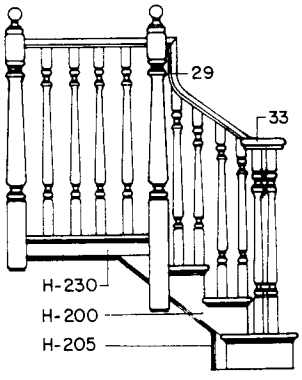
ALTERNATES - Of Posts & Newels

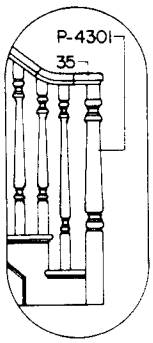


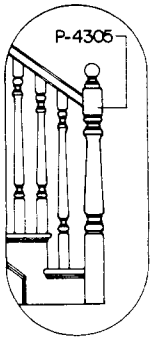






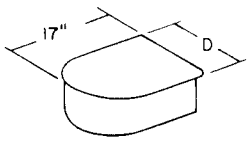






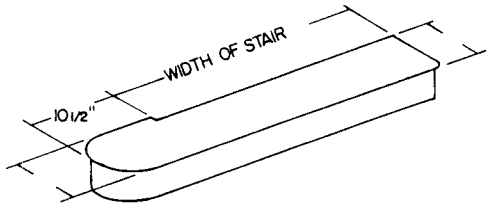
Artistic Stairs & Handrails Inc.
435 E. 58th Street
Los Angeles, CA 90011

TREADS & TRIM - Genuine RED OAK

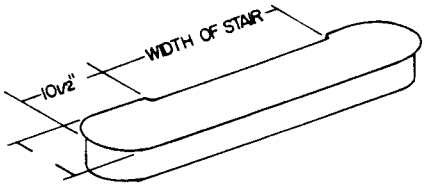


BULLNOSE END

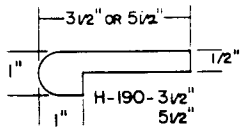
	D	RADIUS
H-110S	12 1/2"	6 1/4"
H-120M	18"	9"
H-130L	21"	10 1/2"

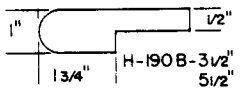


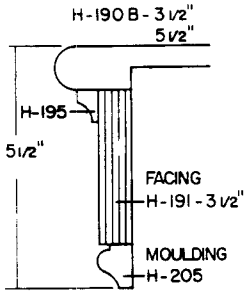
STARTING STEP SINGLE BULLNOSE END
LEFT OR RIGHT
SPECIFY WIDTH AND BULLNOSE SIZE

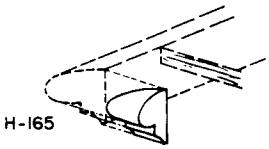


DOUBLE BULLNOSE END STARTING STEP
SPECIFY WIDTH AND BULLNOSE SIZE

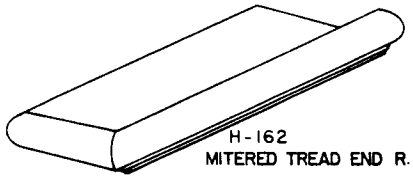


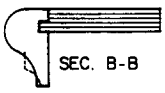


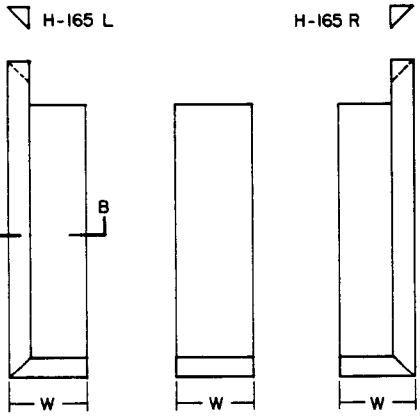


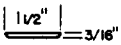


MITERED NOSING END



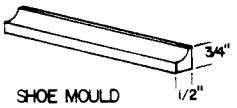




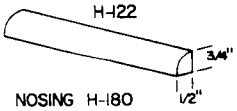


H-166
RISER TRIM

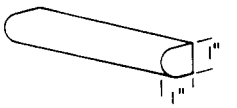
COVE MOULD H-195

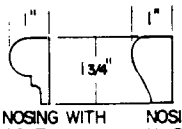


SHOE MOULD
H-122



NOSING H-180

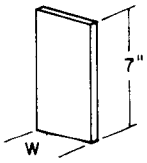




NOSING WITH COVE
H-181

NOSING
H-SR

H-200
STRINGER FACING
3/4" x 11 1/2"

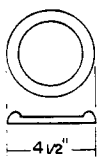


RISER END
H-164-2 1/2"
3"
4 1/4"

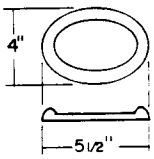
TREAD END L.H.
H-161-3 1/2"
5 1/4"

WALL TREAD
H-163-3"
4 1/4"

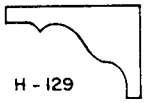
TREAD END RH
H-162-3 1/2"
5 1/4"



H-117



ROSETTES
H-137



BRACKETS
11 1/2" x 8 1/2" x 1/4"

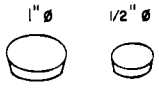
H-170
PLAIN TREAD 1" x 11 1/2"

H-170-A
MITERED END TREAD L.OR R.

H-175 SOLID OAK RISER
H-175 P OAK PLY RISER
7 1/2" x 3/4"

G-01
RAIL BOLT

G-02
RAIL BRACKET



G-11 G-11 1/2
WOOD PLUGS

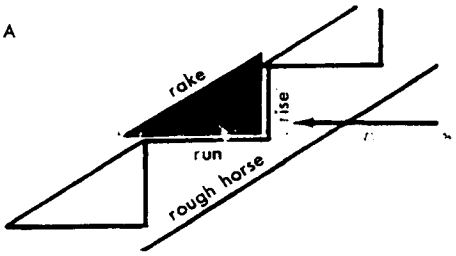
RUN, RISE AND RAKE

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. 1A

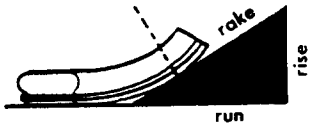


STEP ONE

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. 1A.

STARTING EASINGS

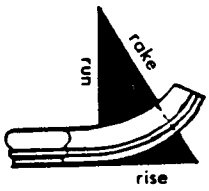
Fig. 2A



STEP TWO

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

Fig. 3A



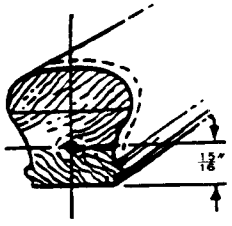
STEP THREE

For the proper angle of cut on the fitting turn the pitch block as shown in Fig. 3A 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

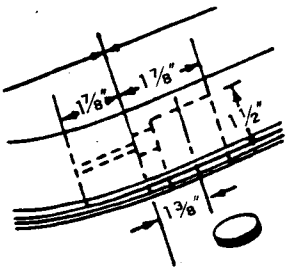
For the proper angle of cut on the fitting, turn the pitch block as shown in Fig. 2B, the run edge on the work surface. Place the rake edge at the previously marked location and draw a line along the rake edge. This is the cutting guide line, straight rail joins at this point. Rail and fitting are joined 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. 3B. 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. 3B.

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

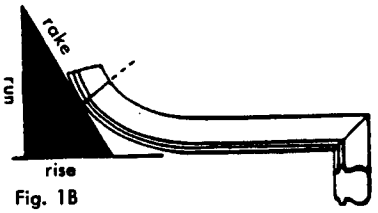


Fig. 1B

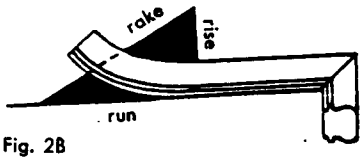


Fig. 2B

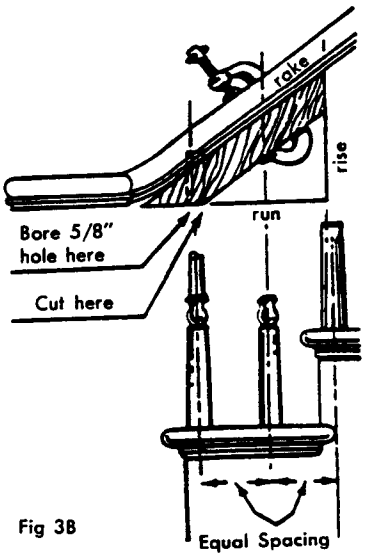


Fig 3B

RAIL BOLT (furnished)

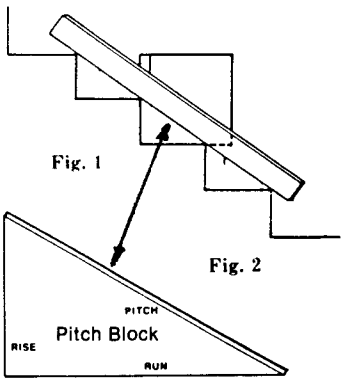
Turn lag end of rail bolt into fitting, one half it's length. Threaded end, washer, and nut are used in straight rail.

Align, tighten and plug.

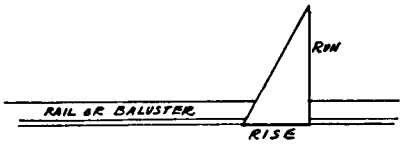
INSTALLATION INSTRUCTIONS

1. How To Determine the PITCH (RAKE) of Your Stair by Making a Pitch Block as Shown.

1) Cut a square (90° angles) piece of plywood to a dimension slightly larger than the tread width and riser height.
2) Obtain a straight edge 4 feet or longer.
3) To determine the pitch (angle of stairway), place the straight edge on the stairway so that it touches the leading edge (or nosing) of 4 or more treads (excluding the first tread). Place one edge of the plywood square on the tread and another edge against the riser (or nosing), and draw a line on the plywood square, along the straight edge, from tread to tread (Fig. 1).
4) Cut the plywood square along this line to form the "pitch block" (Fig. 2).



This Pitch Block can also come from the rough horse cut. It must be the rise and run of the stair.

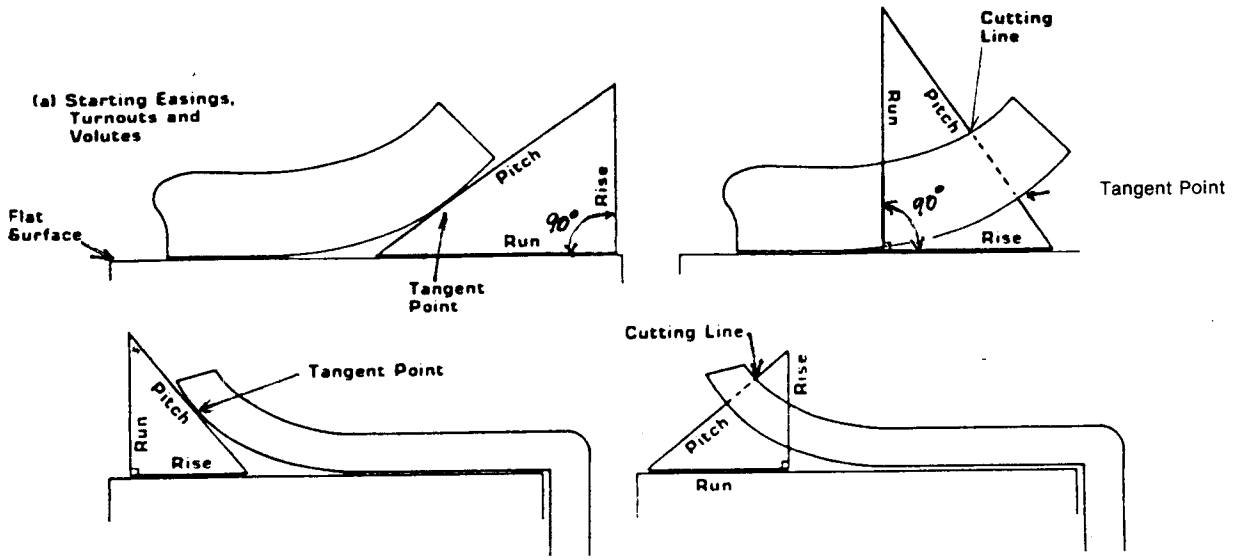


Pitch Block can also be used to cut angles on handrail or balusters.

2. How To Cut Fittings Using Pitch Block.

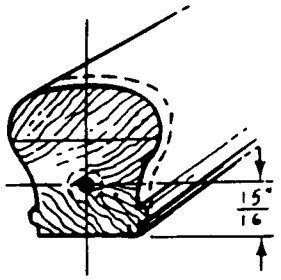
1) Cut a pitch block with a 90° angle, one side being the rise of stair and the other is the run. Third side formed is the pitch.
2) a) Place fittings so that level portion is on flat surface.
   b) Using pitch block as shown mark the point of contact (Tangent Point).
3) Using pitch block as indicated in second figure, align pitch side of block with mark made on fitting in step b (Point of Contact).
4) Draw cutting line as indicated.
5) Cut fitting along this line.

For Goosenecks — Following the instructions above, cut goosenecks using pitch block as shown in following illustrations.

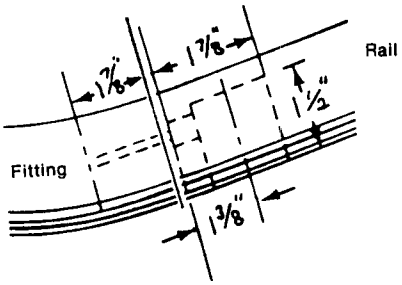


3. How To Connect Rail to Fittings

Using Rail Bolts
(Included with Hardwood Fittings)



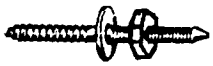
Make a template, cut a wafer approx. 3/16" thick from a section of handrail. Bore a small hole where indicated in Figure. Use to locate rail bolt holes to insure proper alignment.



Attaching Fitting to Straight Rail

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.



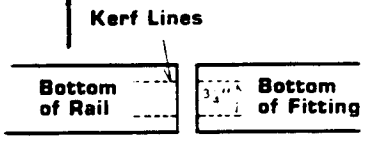
RAIL BOLT (furnished)

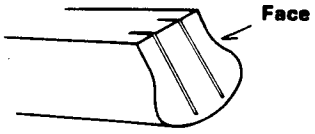
Turn lag end of rail bolt into fitting, one half its length. Threaded end, washer, and nut are used in straight rail.

Align, tighten using standard 1/2" box wrench.

Using Clamp Nails
(Included with Hemlock Fittings)

Align pieces and mark kerf lines as shown. Allow 3/4" between kerfs in case a baluster must be placed between fasteners.

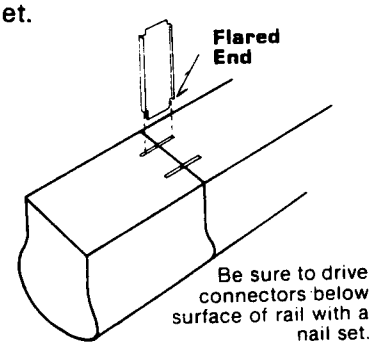




Using a square, extend kerf marks down face of rail and fitting. Cut saw kerfs into rail along these lines, making sure not to cut through top of rail.

Apply wood glue to ends to be joined and place together firmly.

Drive connectors into saw kerfs being sure flared end is driven in first. This pulls joint together. Be sure to drive connectors below surface of rail with a nail set.



SPECIAL PRECAUTIONS

1. Saw kerfs in rail and fitting *must* line up.
2. Saw kerfs *must* be cut in both pieces.
3. Saw kerfs *must* be as fine as possible (hacksaw or thin backsaw).
4. Clamp nails will *not* work in unkerfed wood. *Don't try it!*

4. How To Drill Treads and Railing for Balusters

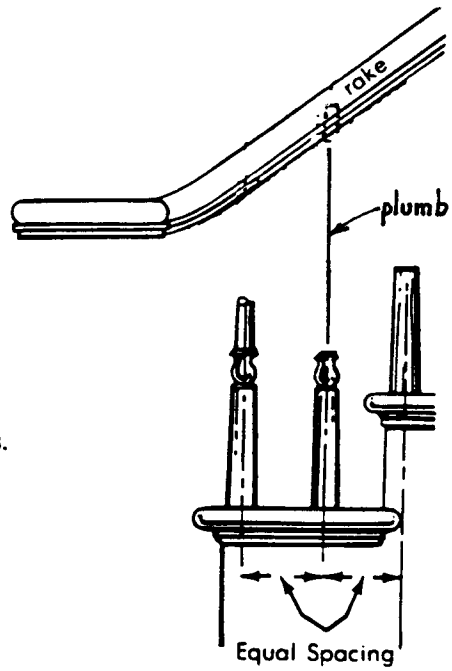
Mark center points for baluster holes on treads, being sure to space equally as shown.
Use a plumb or level to line up center points on treads with the center points on the bottom of the rail.

Drill holes in treads to fit size of dowel on bottom of the balusters.

Drill holes in bottom of the railing at the proper vertical angle, using a bit slightly larger than the top of the baluster. Do *not* drill more than 1" deep into rail. Insert balusters into holes.

You may have to cut some off of the top or bottom dowels.

Slight sanding of top pins may be needed.
Line up bottom squares and toe-nail through pre-drilled hole to prevent twisting. If the top appears loose, also to-nail top.



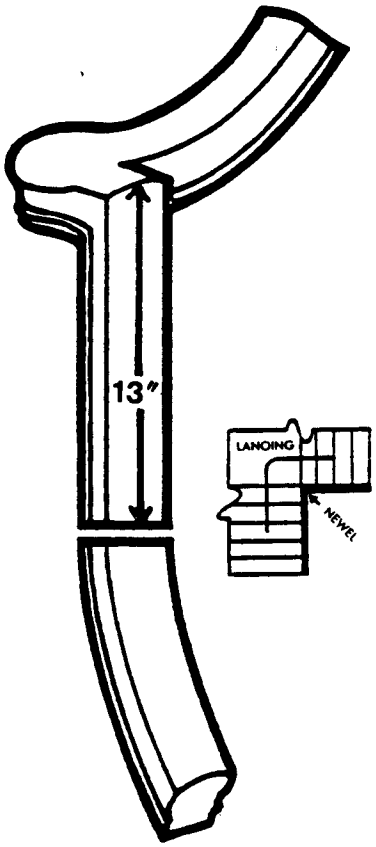


Fig. B

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 6½" rise.

For example: A stairway having a rise of 8" will require a rail drop of 10½" long. Whereas a stairway with a rise of 7" will require a rail drop of 9½" long.

To determine the proper length needed for a 2 rise gooseneck, subtract the difference between your rise, (assume it's 7½") and 8" rise 8-7½=½", multiply the difference times 2 for a 2 rise gooseneck. Thus 2x½=1". Subtract the 1" from 10½" which shows a 9½" 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"	10½"
7¾"	10"
7½"	9½"
7¼"	9"
7"	8½"
6¾"	8"
6½"	7½"

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