

How to Install

LIONEL Nos. 110 and 111 TRESTLE SETS

FOR ALL LIONEL TRACK

Lionel No. 110 Trestle Set consists of 12 pairs of graduated trestle piers or "bents" which are designed to elevate the track from ground level to a height of approximately five inches, which is the clearance required for an overpass. The bents should be placed one full track section apart so that each bent supports the joint between two track sections. The difference in the heights of most adjacent bents is 1/2 inch, allowing the train to rise 1/2 inch per section. However, in order to provide a smooth transition between level and graded portion of the track the heights of the three top and two bottom bents vary less than 1/2 inch. The bents are lettered in sequence from "A" to "L" with "A" being the highest, "B" the next and so on.

The trestle can be used in a great many different ways to give added realism and interest to your railroad. Some of the typical layouts which can be made with one Trestle Set and within a limited space are illustrated in Figure 2, but many others are possible. To extend the elevated portion of the railroad auxiliary No. 111 Trestle Sets, consisting of ten "A" size bents and the necessary track mounting hardware, are available from your Lionel dealer.

HOW TO MOUNT THE TRACK

When mounting the track on the trestle, the track sections are first joined firmly. A tie channel is slipped into the grooves on top of each bent, as shown in Figure 1. The four holes in the tie channel are so placed that at least one diagonally opposite pair will line up with the holes in the track ties when the joint is placed at the center of the bent. A pair of #4 x 1/2 sheet metal screws are inserted through the track ties and screwed into the tie channel. To avoid distortion of the track, do not screw down too tightly, but just enough to hold the channels.

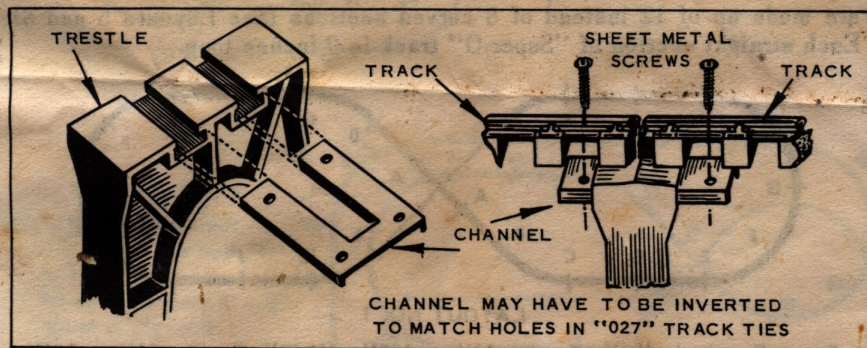


Figure 1 - Positioning of Tie Channel and Track On Trestle Bent

After the track system is mounted to the bents, the assembled trestle is ready to be fastened to a level platform or table by means of No. 5 or No. 6 wood screws passed through the slots in the base of each bent.

TRAIN OPERATION

The grade provided by No. 110 Trestle Set can be climbed by all modern Lionel Magne-Traction locomotives pulling 5 or 6 light freight cars, but some steam-type locomotives require careful control of speed on the downgrade to avoid derailment, particularly if the downgrade includes a sharp curve. To effect automatic control, downgrade sections of track can be insulated from the rest of the road and powered separately, with about 8 volts so that the train speed is automatically moderated on the downgrade. A grade which is used for two-way traffic will, of course, require a switching arrangement to provide full power for climbing. Twin-motored locomotives will usually be able to climb and descend the grade at the same voltage.

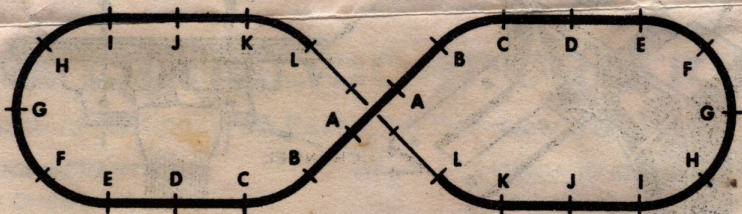
For very heavy locomotives such as the GG-1 Pennsylvania electric locomotive it is advisable to reinforce the track curves with additional bents supporting the center of each curved section to prevent the track from bending under the weight of the locomotive.

TYPICAL LAYOUTS USING NO. 110 & NO. 111 TRESTLE SETS

The following track layouts are the most economical which can be made, occupying the least amount of space and using the least number of track sections. Graded portions of track are shown by heavy line and position of trestle bents by corresponding letters. Notice that 12 sections of track are required for upgrade and an equal number for downgrade. It is best to use only full sections between adjacent trestle bents.

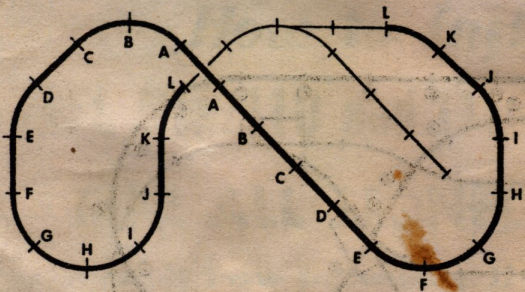
The layouts are so designed that the underpass in most cases fits between a pair of "A" trestles which provide clearance for all Lionel rolling stock except electric locomotives with raised pantographs and No. 3424 Brakeman Car with the brakeman in upright position.

Layouts in "O" and "O27" track are similar in number of track sections used, but "O" layouts will occupy approximately 10% more space than corresponding layouts in "O27". "Super-O" layouts have to be somewhat different because "Super-O" track circles, which measure 38" across, are made up of 12 instead of 8 curved sections (See Layouts 5 and 6). Each straight section of "Super-O" track is 9 inches long.



LAYOUT NO. 1

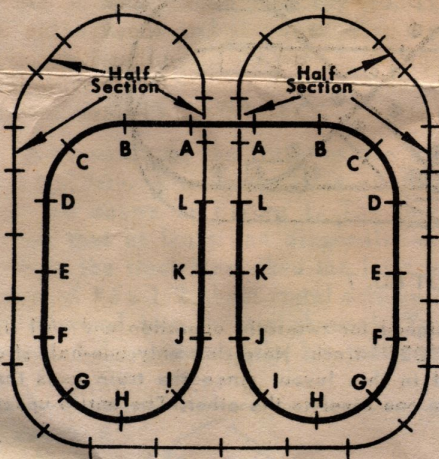
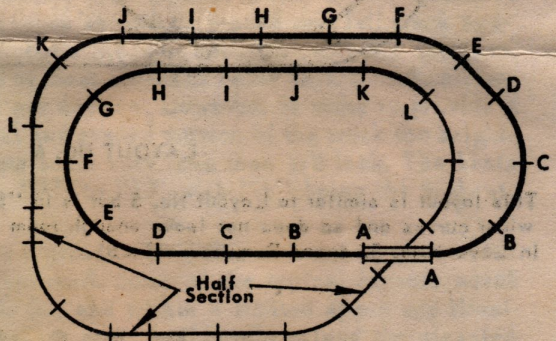
Space Required: "O" Track, 33" x 113"; "O27" Track, 30" x 102"



LAYOUT NO. 2

Space Required:
 "O" Track, 51" x 94"
 "O27" Track, 46" x 86"

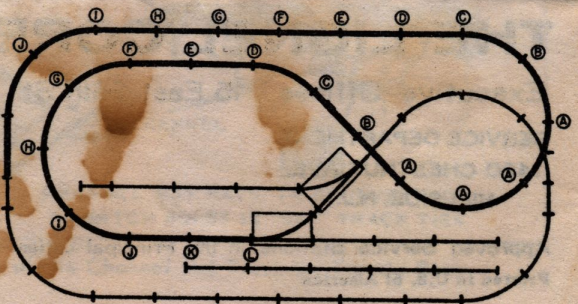
LAYOUT NO. 3
 Space Required:
 "O" Track, 46" x 78"
 "O27" Track, 42" x 70"

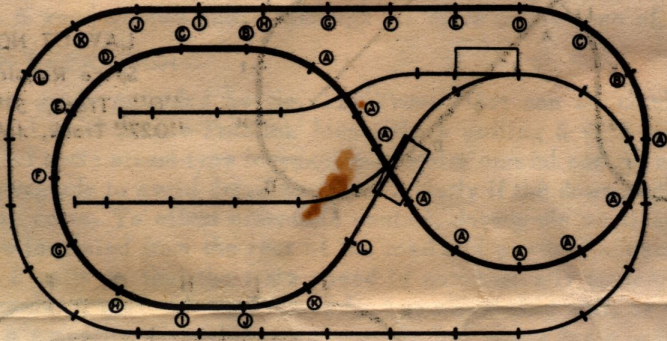


LAYOUT NO. 4

Space Required:
 "O" Track, 68" x 79"
 "O27" Track, 62" x 68"

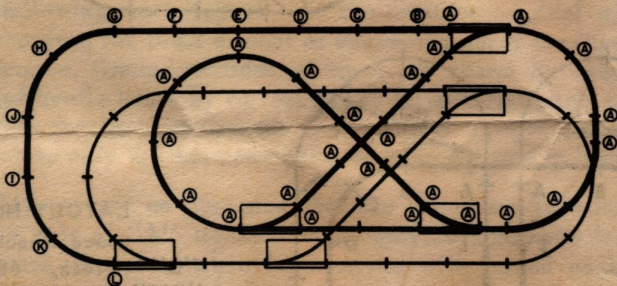
LAYOUT NO. 5
 Space Required:
 This layout in both "O"
 and "O27" track will
 fit on a standard 4' x 8'
 sheet of plywood.





LAYOUT NO. 6

This layout is similar to Layout No. 5 but is in "Super-O" track which requires wider curves and so does not leave enough room for a separate trolley line as in Layout No. 5. Space Required: 4' x 8'



LAYOUT NO. 7

This compact two level layout is designed for two-train operation and will fit on a 4' x 8' board in either "O" or "O27" track. Note that only one-half of a standard No. 110 Trestle Set is used in this layout since the train uses the same graded portion of track to go from one level to the other. The entire upper level is supported by size "A" bents.

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110-30 2-59