

**Lin's Junction Clinics  
Presents**

***"Even You Can Build  
an HO Scale Helix"***

**by**

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# HO Scale Helix Parameters

<u>Space between Levels (in.)</u>	<u>Track Centerline (in.)</u>		<u>Length of each Revolution (ft.)</u>	<u>Grade (%)</u>	<u>No. of Revolutions / Length (ft.) to Rise</u>						
	<u>Radius</u>	<u>Diameter</u>			<u>18 in.</u>	<u>24 in.</u>	<u>30 in.</u>	<u>36 in.</u>	<u>42 in.</u>		
3.5	4.5	30	60	15.7	2.4	4/63	5.3/84	6.7/105	8/126	9.3/147	
		32	64	16.8	2.2	4/67	5.3/89	6.7/113	8/134	9.3/156	
		34	68	17.8	2.1	4/71	5.3/94	6.7/119	8/142	9.3/166	
		36	72	18.9	2.0	4/76	5.3/100	6.7/127	8/151	9.3/176	
		38	76	19.9	1.9	4/80	5.3/105	6.7/133	8/159	9.3/185	
		40	80	20.9	1.8	4/84	5.3/111	6.7/140	8/167	9.3/194	
		42	84	22.0	1.7	4/88	5.3/117	6.7/147	8/176	9.3/205	
		44	88	23.0	1.6	4/92	5.3/122	6.7/154	8/184	9.3/214	
	4.0	5.0	30	60	15.7	2.7	3.6/57	4.8/75	6.0/94	7.2/113	8.4/132
			32	64	16.8	2.5	3.6/60	4.8/81	6.0/101	7.2/121	8.4/141
		34	68	17.8	2.3	3.6/64	4.8/85	6.0/107	7.2/128	8.4/150	
		36	72	18.9	2.2	3.6/68	4.8/91	6.0/113	7.2/136	8.4/159	
		38	76	19.9	2.1	3.6/72	4.8/96	6.0/119	7.2/143	8.4/167	
		40	80	20.9	2.0	3.6/75	4.8/100	6.0/125	7.2/151	8.4/176	
		42	84	22.0	1.9	3.6/79	4.8/106	6.0/132	7.2/158	8.4/185	
		44	88	23.0	1.8	3.6/83	4.8/110	6.0/138	7.2/166	8.4/193	

Notes:

- (1) 3.5 inches (25 HO scale feet) is the minimum recommended opening to allow for hand entry.
- (2) One additional inch is based on a sub-roadbed sandwich of ½ Homasote® and ½ plywood.

# Helix Sub-roadbed Layout

(from 1/2" Homasote® and 1/2" Plywood)

<u>Track Radius (in.)</u>	<u>Segment Dimensions (in.)</u>	
	<u>Outer Radius</u>	<u>Inner Radius</u>
44	47	41
42	45	39
40	43	37
38	41	35
36	39	33
34	37	31
32	35	29
30	33	27

- Notes:
1. After deciding on the required segment radii, use graph paper, protractor, and scale ruler to layout the cutting pattern for maximum use of plywood.
  2. After cutting out the first segment, use it to draw the cut lines for all others on both plywood and Homasote. Splice plates (~12 in. long) can be cut from scrap plywood.