

This Standard was approved by the NMRA Board of Directors in Sep-10. Several typographic errors have been corrected, and further comments regarding Dimension P (Modern) have been incorporated. Approved by NMRA BOD February 2012.

## NMRA Standards

# Clearances

February 2012

**S-7**

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This standard specifies the Clearances for Bridges, Structures and Tangent Tracks for Old Time, Classic and Modern eras. The Old Time era is pre-1920, the Classic era is from 1920-1969 (see Note 2), and the Modern era is post-1983. NMRA Type II Gages used the Old Time dimensions for Narrow Gauge gages, and Classic dimensions for Standard Gauge gages. This document only lists the most popular scales; at the end of each table, the 1:1 scale dimensions are given for conversion to other scales. All dimensions are in inches (rounded to  $\frac{1}{32}$ ), unless otherwise specified.

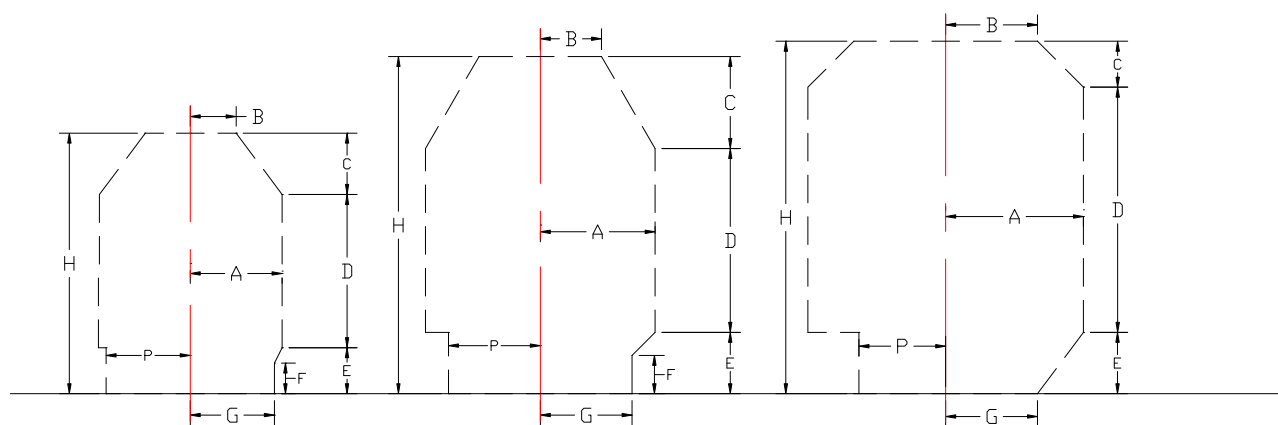


Figure 1: Old Time, Classic, and Modern Clearances

Table 1: Old Time Dimensions (Refer to Figure 1, Left-hand Drawing) See Note 1.

SCALE	A	B	C	D	E	F	G	H	P
<b>LS 1:20.3</b>	3 3/32	1 17/32	2 2/32	5 5/32	1 17/32	1 1/32	2 27/32	8 24/32	2 27/32
<b>( F )</b>	90 mm	45 mm	60 mm	150 mm	45 mm	30 mm	83 mm	255 mm	83 mm
<b>LS 1:22.5</b>	3 6/32	1 19/32	2 4/32	5 11/32	1 19/32	1 2/32	2 30/32	9 2/32	2 30/32
<b>( G )</b>	81 mm	41 mm	54 mm	135 mm	41 mm	27 mm	75 mm	230 mm	75 mm
<b>LS 1:32</b>	2 8/32	1 4/32	1 16/32	3 24/32	1 4/32	24/32	2 2/32	6 12/32	2 2/32
<b>(No. 1)</b>	57 mm	29 mm	38 mm	95 mm	29 mm	19 mm	52 mm	162 mm	52 mm
<b>O Scale</b>	1 16/32	24/32	1	2 16/32	24/32	16/32	1 12/32	4 8/32	1 12/32
	38 mm	19 mm	25 mm	64 mm	19 mm	13 mm	35 mm	108 mm	35 mm
<b>S Scale</b>	1 4/32	18/32	24/32	1 28/32	18/32	12/32	1 1/32	3 6/32	1 1/32
	29 mm	14 mm	19 mm	48 mm	14 mm	10 mm	26 mm	81 mm	26 mm
<b>HO Scale</b>	26/32	13/32	18/32	1 12/32	13/32	9/32	24/32	2 11/32	24/32
	21 mm	10 mm	14 mm	35 mm	10 mm	7 mm	19 mm	59 mm	19 mm
<b>TT Scale</b>	19/32	10/32	13/32	1	10/32	6/32	18/32	1 22/32	18/32
	15 mm	8 mm	10 mm	25 mm	8 mm	5 mm	14 mm	43 mm	14 mm
<b>N Scale</b>	14/32	7/32	10/32	24/32	7/32	5/32	13/32	1 9/32	13/32
	11 mm	6 mm	8 mm	19 mm	6 mm	4 mm	10 mm	32 mm	10 mm
<b>1:1</b>	6 ft.	3 ft.	4 ft.	10 ft.	3 ft.	2 ft.	5 ft. 6 in.	17 ft.	5 ft. 6 in.
	1828.8 mm	914.4 mm	1219.2 mm	3048 mm	914.4 mm	609.6 mm	1676.4 mm	5181.6 mm	1676.4 mm

Table 2: Classic Dimensions (Refer to Figure 1, Center Drawing)

SCALE	A	B	C	D	E	F	G	H	P
<b>LS 1:20.3 ( F )</b>	4 14/32 113 mm	2 12/32 60 mm	3 17/32 90 mm	7 3/32 180 mm	2 12/32 60 mm	1 15/32 38 mm	3 17/32 90 mm	13 330 mm	3 17/32 90 mm
<b>LS 1:22.5 ( Ilm )</b>	4 102 mm	2 4/32 54 mm	3 6/32 81 mm	6 13/32 163 mm	2 4/32 54 mm	1 11/32 34 mm	3 6/32 81 mm	11 23/32 298 mm	3 6/32 81 mm
<b>LS 1:29</b>	3 3/32 79 mm	1 21/32 42 mm	2 15/32 63 mm	4 31/32 126 mm	1 21/32 42 mm	1 1/32 26 mm	2 15/32 63 mm	9 3/32 231 mm	2 15/32 63 mm
<b>LS 1:32 (No. 1)</b>	2 26/32 71 mm	1 16/32 38 mm	2 8/32 57 mm	4 16/32 114 mm	1 16/32 38 mm	30/32 24 mm	2 8/32 57 mm	8 8/32 210 mm	2 8/32 57 mm
<b>O Scale</b>	1 28/32 48 mm	1 25 mm	1 16/32 38 mm	3 76 mm	1 25 mm	20/32 16 mm	1 16/32 38 mm	5 16/32 140 mm	1 16/32 38 mm
<b>S Scale</b>	1 13/32 36 mm	24/32 19 mm	1 4/32 29 mm	2 8/32 57 mm	24/32 19 mm	15/32 12 mm	1 4/32 29 mm	4 4/32 105 mm	1 4/32 29 mm
<b>HO Scale</b>	1 1/32 26 mm	18/32 14 mm	26/32 21 mm	1 21/32 42 mm	18/32 14 mm	11/32 9 mm	26/32 21 mm	3 1/32 77 mm	26/32 21 mm
<b>TT Scale</b>	24/32 19 mm	13/32 10 mm	19/32 15 mm	1 6/32 30 mm	13/32 10 mm	8/32 6 mm	19/32 15 mm	2 6/32 56 mm	19/32 15 mm
<b>N Scale</b>	18/32 14 mm	10/32 8 mm	14/32 11 mm	29/32 23 mm	10/32 8 mm	6/32 5 mm	14/32 11 mm	1 21/32 42 mm	14/32 11 mm
<b>Z Scale</b>	13/32 10 mm	7/32 6 mm	10/32 8 mm	21/32 17 mm	7/32 6 mm	4/32 3 mm	10/32 8 mm	1 6/32 30 mm	10/32 8 mm
<b>1:1</b>	7 ft. 6 in. 2286 mm	4 ft. 1219.2 mm	6 ft. 1828.8 mm	12 ft. 3657.6 mm	4 ft. 1219.2 mm	2 ft. 6 in. 762 mm	6 ft. 1828.8 mm	22 ft. 6705.6 mm	6 ft. 1828.8 mm

Table 3: Modern Dimensions (Refer to Figure 1, Right-Hand Drawing)

	A	B	C	D	E	F	G	H	P
<b>LS 1:29</b>	3 23/32 95 mm	2 15/32 63 mm	1 8/32 32 mm	6 20/32 168 mm	1 21/32 42 mm	- -	2 15/32 63 mm	9 17/32 242 mm	2 10/32 59 mm
<b>O Scale</b>	2 8/32 57 mm	1 16/32 38 mm	24/32 19 mm	4 102 mm	1 25 mm	- -	1 16/32 38 mm	5 24/32 146 mm	1 13/32 35 mm
<b>S Scale</b>	1 22/32 43 mm	1 4/32 29 mm	18/32 14 mm	3 76 mm	24/32 19 mm	- -	1 4/32 29 mm	4 10/32 110 mm	1 2/32 27 mm
<b>HO Scale</b>	1 8/32 31 mm	26/32 21 mm	13/32 10 mm	2 7/32 56 mm	18/32 14 mm	- -	26/32 21 mm	3 5/32 80 mm	25/32 20 mm
<b>TT Scale</b>	29/32 23 mm	19/32 15 mm	10/32 8 mm	1 19/32 41 mm	13/32 10 mm	- -	19/32 15 mm	2 10/32 58 mm	18/32 14 mm
<b>N Scale</b>	22/32 17 mm	14/32 11 mm	7/32 6 mm	1 6/32 30 mm	10/32 8 mm	- -	14/32 11 mm	1 23/32 44 mm	13/32 11 mm
<b>Z Scale</b>	16/32 12 mm	10/32 8 mm	5/32 4 mm	28/32 22 mm	7/32 6 mm	- -	10/32 8 mm	1 8/32 32 mm	10/32 8 mm
<b>1:1</b>	9 ft. 2743.2 mm	6 ft. 1828.8 mm	3 ft. 914.4 mm	16 ft. 4876.8 mm	4 ft. 1219.2 mm	- -	6 ft. 1828.8 mm	23 ft. 7010.4 mm	5 ft. 7 in. 1701.8 mm

Notes:

1. Narrow Gauge locomotives with extra wide cylinders, such as 'K' types, require Classic dimensions for A, B, G, and P.
2. For the years 1969-1983, use Classic dimensions, decrease dimension C to 4 ft., and increase dimension D to 14 ft.