

WORKSHOP DATA AND DETAILING DIMENSIONS

For other scales: Data for scales not listed directly in one of the nine scale columns can be determined easily and quickly from the scales that are listed. Examples: G scale (1:22.5) is double 1:45 scale; $\frac{3}{4}$ " scale (1:16) is triple 1:48 scale; 2-mm. scale (1:152.4) is half OO scale; 1-cm. scale (1:30.48) is 2.5 times OO scale.

WORKSHOP DATA				ACTUAL MEASUREMENT		CONVERSIONS TO VARIOUS SCALE DIMENSIONS											
AMERICAN WIRE GAUGE	THREADING RECOMMENDATIONS See note at left	NUMBER DRILLS	I N C H E S FRACTIONS	MILLI- METERS	(") Denotes inches (*) Denotes centimeters												
					1:220 Z scale	1:160 N scale	1:120 TT scale	1:87 HO scale	1:76.2 OO scale	1:64 S scale	1:48 1/4" scale	1:45 O scale	1:43.5 7-mm scale				
40				.003													
39				.004													
38				.004													
37				.005													
				.005													
36				.005													
35				.005													
34				.006													
33				.006													
32			1/128	.008													
				.008													
31				.009													
30				.009													
29				.010													
				.011													
28				.012													
				.013													
		80		.013													
				.013													
				.013													
				.014													
27				.014													
		79		.014													
26			1/64	.016													
		78		.016													
				.016													
				.017													
25				.017													
				.018													
		77		.018													
				.019													
				.020													
24				.020													
		76		.021													
		75		.021													
				.022													
23				.022													
		74		.023													
				.023													
		73		.024													
22				.025													
		72		.025													
		71		.026													
				.026													
				.026													
				.027													
				.027													
		70		.028													
21				.028													
				.029													
		69		.029													
		68		.031													
			1/32	.031													
20				.031													
		67		.032													
				.032													
				.033													
		66		.033													
				.033													
		65		.034													
				.035													
19		64		.036													
				.036													
				.037													
		63		.037													
				.038													
		62		.038													
		61		.039													
				.039													
				.039													
18		60		.040													
		59		.041													
				.041													
		58		.042													
		57		.042													
				.043													
				.044													
				.044													
17				.045													

NUMBER SIZE SCREWS

Both wood and machine screws in North America are offered in a range of "number" sizes. Sizes 00 up to about 6 are commonly used in model assembly, while sizes 8 and 10 are used in benchwork. These sizes and also 1/4"-diameter screws are indicated with code letters. Examples:

- C 6. This falls on a level with the drill size or diameter which will drill a "clearance hole" for any no. 6 size wood or machine screw. This hole will clear the shank of the screw. A careful worker can use a slightly smaller drill for a snugger fit if desired.

- T 4-40. This falls on a level with the drill diameter which will drill a "threading hole" to accept a size 4-40 tap for cutting threads in average metal. The 40 indicates the number of threads per inch.

- W 4. This falls on a level with the drill which will cut a suitable pilot hole for the threaded portion of a no. 4 wood screw in softwood. For hardwood, select a larger drill and lubricate the screw. If part of the screw has no threads, it may be necessary to use a clearance drill for this part of the hole depth. This is mandatory in hardwood.

METRIC SCREWS

The data for metric machine screws are arranged differently from the number sizes. Here the letter M falls on a line with the shank diameter of a commonly used metric screw size. The number following the M indicates the pitch of the screw's threads in millimeters. Example: The 2-mm.-diameter screw comes with a pitch of 4 mm. For a clearance hole, select a drill slightly larger than this screw diameter. For a threading hole, deduct the pitch from the diameter and select a drill of approximately this size. As with number screws, the drill size can be varied to suit materials.

Besides the screws listed, those of diameters of .8 to 1.8 mm. have also been made with a .2-mm. pitch. Standards for metric screws in modelmaking are not yet fully established.

16	W 2 M .25	56	3/64	.046 .047 .047 .049 .050 .051 .052 .052 .054 .055 .055 .056 .057 .057 .059 .059 .061 .062 .063 .063 .063 .064 .066 .067 .067 .069 .070 .072 .072 .073 .074 .075 .076 .078 .078 .079 .080 .081 .082 .083 .086 .086 .087 .089 .089 .091 .092 .092 .093 .094 .096 .098 .098 .099 .100 .101 .102 .103 .104 .104 .105 .106 .107 .109 .109 .110 .111 .111 .113 .114 .115 .116 .118	20*	15*	6"	3"	8*	6*
15	W 2	54		.052 .052 .054 .055 .055 .056 .057 .057 .059 .059 .061 .062 .063 .063 .063 .064 .066 .067 .067 .069 .070 .072 .072 .073 .074 .075 .076 .078 .078 .079 .080 .081 .082 .083 .086 .086 .087 .089 .089 .091 .092 .092 .093 .094 .096 .098 .098 .099 .100 .101 .102 .103 .104 .104 .105 .106 .107 .109 .109 .110 .111 .111 .113 .114 .115 .116 .118	9"	5"	4"	10*	4"	7*
14	M .35 W 4	52	1/16	.062 .063 .063 .063 .063 .064 .066 .067 .067 .069 .070 .072 .072 .073 .074 .075 .076 .078 .078 .079 .080 .081 .082 .083 .086 .086 .087 .089 .089 .091 .092 .092 .093 .094 .096 .098 .098 .099 .100 .101 .102 .103 .104 .104 .105 .106 .107 .109 .109 .110 .111 .111 .113 .114 .115 .116 .118	25*	20*	5"	10*	4"	3"
13	C 0 T 2-56	51 50		.062 .063 .063 .063 .063 .064 .066 .067 .067 .069 .070 .072 .072 .073 .074 .075 .076 .078 .078 .079 .080 .081 .082 .083 .086 .086 .087 .089 .089 .091 .092 .092 .093 .094 .096 .098 .098 .099 .100 .101 .102 .103 .104 .104 .105 .106 .107 .109 .109 .110 .111 .111 .113 .114 .115 .116 .118	40*	6"	6"	5"	3"	8*
12	T 3-48 C 1 W 6 M .4	48 47	5/64	.072 .073 .074 .075 .076 .078 .078 .079 .080 .081 .082 .083 .086 .086 .087 .089 .089 .091 .092 .092 .093 .094 .096 .098 .098 .099 .100 .101 .102 .103 .104 .104 .105 .106 .107 .109 .109 .110 .111 .111 .113 .114 .115 .116 .118	30*	9"	6"	5"	9*	4"
11	T 4-40	43		.072 .073 .074 .075 .076 .078 .078 .079 .080 .081 .082 .083 .086 .086 .087 .089 .089 .091 .092 .092 .093 .094 .096 .098 .098 .099 .100 .101 .102 .103 .104 .104 .105 .106 .107 .109 .109 .110 .111 .111 .113 .114 .115 .116 .118	50*	20*	7"	6"	10*	4"
10	C 2 W 8 M .45	42 41 40	3/32	.082 .083 .086 .086 .087 .089 .089 .091 .092 .092 .093 .094 .096 .098 .098 .099 .100 .101 .102 .103 .104 .104 .105 .106 .107 .109 .109 .110 .111 .111 .113 .114 .115 .116 .118	40*	30*	8"	6"	5"	5"
9	T 6-32 C 3	36	7/64	.092 .092 .093 .094 .096 .098 .098 .099 .100 .101 .102 .103 .104 .104 .105 .106 .107 .109 .109 .110 .111 .111 .113 .114 .115 .116 .118	60*	12"	9"	8"	7"	5"
	W 10	35 34 33		.102 .103 .104 .104 .105 .106 .107 .109 .109 .110 .111 .111 .113 .114 .115 .116 .118	45*	35*	10"	9"	5"	5"
	M .5	32		.102 .103 .104 .104 .105 .106 .107 .109 .109 .110 .111 .111 .113 .114 .115 .116 .118						



AMERICAN WIRE GAUGE	THREADING RECOMMENDATIONS	NUMBER DRILLS	I N C H E S		MILLI- METERS	1:220 Z scale	1:160 N scale	1:120 TT scale	1:87 HO scale	1:76.2 OO scale	1:64 S scale	1:48 1/4" scale	1:45 O scale	1:43.5 7-mm. scale
			FRACTIONS	DECIMALS										
8	C 4	31	1/8	.120	3.05	70*	50*				20*	6"	6"	
				.123	3.13					20*	8"			
	T 8-32	29		.125	3.18	80*	55*	40*	11"	10"	9"	6"	6"	
				.126	3.21									
				.128	3.26									
				.131	3.33									
				.133	3.39									
				.135	3.44									
				.136	3.45									
				.138	3.50									
7	C 6	28	9/64	.140	3.56	80*	60*	45*	30*	11"	9"	7"	7"	6"
				.141	3.57									
	T 10-32	27		.143	3.64	80*	55*	40*	11"	10"	9"	6"	6"	
				.144	3.66									
				.146	3.70									
				.147	3.73									
				.148	3.75									
				.149	3.79									
				.150	3.81									
				.152	3.86									
6	C 6	26	5/32	.154	3.91	90*	65*	50*	8"	12"	10"	7"	7"	
				.156	3.95									
	T 10-32	21		.157	3.97	90*	65*	50*	8"	12"	10"	7"	7"	
				.159	4.00									
				.160	4.06									
				.161	4.08									
				.162	4.11									
				.164	4.16									
				.164	4.17									
				.166	4.22									
5	C 8	17	11/64	.167	4.23	100*	75*	55*	40*	30*	12"	9"	8"	8"
				.169	4.30									
	T 10-32	15		.172	4.37	100*	75*	55*	40*	30*	12"	9"	8"	8"
				.173	4.39									
				.175	4.44									
				.177	4.50									
				.178	4.52									
				.179	4.55									
				.180	4.57									
				.180	4.58									
4	C 10	14	3/16	.181	4.60	80*	60*	24"	18"	13"	9"	10"	9"	9"
				.182	4.62									
	T 1/4-20	7		.184	4.67	80*	60*	24"	18"	13"	9"	10"	9"	9"
				.185	4.69									
				.188	4.70									
				.188	4.76									
				.189	4.80									
				.191	4.85									
				.193	4.91									
				.196	4.98									
3	C 10	8	13/64	.197	5.00	85*	65*	48"	14"	14"	14"	14"	14"	14"
				.199	5.05									
	T 1/4-20	6		.201	5.11	85*	65*	48"	14"	14"	14"	14"	14"	14"
				.203	5.16									
				.204	5.18									
				.204	5.19									
				.205	5.22									
				.207	5.25									
				.207	5.26									
				.208	5.29									
2	C 10	4	7/32	.209	5.31	85*	65*	48"	14"	14"	14"	14"	14"	14"
				.213	5.41									
	T 1/4-20	3		.213	5.42	85*	65*	48"	14"	14"	14"	14"	14"	14"
				.217	5.50									
				.218	5.54									
				.218	5.54									
				.219	5.56									
				.219	5.56									
				.221	5.61									
				.221	5.61									

