

BOLT SIZES FOR STANDARD GAUGE LOCOMOTIVES																	
GAUGE	SCALE FACTOR	FULL SIZE BOLT DIAMETER															
		FRACTION	1/4"	5/16"	3/8"	7/16"	1/2"	5/8"	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/2"
		DECIMAL	0.250	0.313	0.375	0.438	0.500	0.625	0.750	0.875	1.000	1.125	1.250	1.500	1.750	2.000	2.5
2 1/2"	1 : 24	SCALE BOLT DIA	0.010	0.013	0.015	0.018	0.021	0.025	0.031	0.036	0.042	0.047	0.052	0.063	0.072	0.083	0.104
		NEAREST BA SIZE							16	14	14	12	12	10	8	8	6
3 1/2"	1 : 16	SCALE BOLT DIA	0.016	0.020	0.023	0.027	0.031	0.037	0.047	0.055	0.063	0.070	0.078	0.094	0.109	0.125	0.156
		NEAREST BA SIZE					16	14	12	12	10	10	8	7	6	5	3
5"	1 : 11.3	SCALE BOLT DIA	0.022	0.028	0.033	0.039	0.044	0.053	0.066	0.077	0.088	0.100	0.111	0.133	0.155	0.177	0.221
		NEAREST BA SIZE		16	16	14	12	12	10	8	8	7	6	5	3	2	1
7 1/4"	1 : 8	SCALE BOLT DIA	0.031	0.039	0.047	0.055	0.063	0.075	0.094	0.109	0.125	0.141	0.156	0.188	0.219	0.250	0.313
		NEAREST BA SIZE	16	14	12	12	10	8	7	6	5	4	3	2	1	1/4 BSF	5/16 BSF

BOLT SIZES FOR NARROW (2'-0") GAUGE LOCOMOTIVES																	
GAUGE	SCALE FACTOR	FULL SIZE BOLT DIAMETER															
		FRACTION	1/4"	5/16"	3/8"	7/16"	1/2"	5/8"	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 1/2"			
		DECIMAL	0.250	0.313	0.375	0.438	0.500	0.625	0.750	0.875	1.000	1.125	1.250	1.500			
2 1/2"	1 : 9.6	SCALE BOLT DIA	0.026	0.033	0.039	0.046	0.052	0.062	0.078	0.091	0.104	0.117	0.130	0.156			
		NEAREST BA SIZE		16	14	14	12	10	8	8	6	6	5	3			
3 1/2"	1 : 6.9	SCALE BOLT DIA	0.036	0.045	0.054	0.063	0.072	0.085	0.109	0.127	0.145	0.163	0.181	0.217			
		NEAREST BA SIZE	14	12	12	10	8	8	6	5	4	3	2	1			
5"	1 : 4.8	SCALE BOLT DIA	0.052	0.065	0.078	0.091	0.104	0.125	0.156	0.182	0.208	0.234	0.260	0.313			
		NEAREST BA SIZE	12	10	8	8	6	5	3	2	1	0	1/4 BSF	5/16 BSF			
7 1/4"	1 : 3.3	SCALE BOLT DIA	0.076	0.095	0.114	0.133	0.152	0.181	0.227	0.265	0.303	0.341	0.379	0.455			
		NEAREST BA SIZE	8	7	6	5	3	2	0	1/4 BSF	5/16 BSF	5/16 BSF	3/8 BSF	7/16 BSF			

BOLT SIZES FOR TRACTION ENGINE																	
SCALE	SCALE FACTOR	FULL SIZE BOLT DIAMETER															
		FRACTION	1/4"	5/16"	3/8"	7/16"	1/2"	5/8"	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 1/2"			
		DECIMAL	0.250	0.313	0.375	0.438	0.500	0.625	0.750	0.875	1.000	1.125	1.250	1.500			
1"	1 : 12	SCALE BOLT DIA	0.021	0.026	0.031	0.036	0.042	0.05	0.063	0.073	0.083	0.094	0.104	0.125			
		NEAREST BA SIZE			16	14	12	12	10	8	6	7	6	5			
1 1/2"	1 : 8	SCALE BOLT DIA	0.031	0.039	0.047	0.055	0.063	0.075	0.094	0.109	0.125	0.141	0.156	0.188			
		NEAREST BA SIZE	16	14	12	12	10	8	7	6	5	4	3	2			
2"	1 : 6	SCALE BOLT DIA	0.042	0.052	0.063	0.073	0.083	0.10	0.125	0.146	0.167	0.188	0.208	0.250			
		NEAREST BA SIZE	14	12	10	8	8	6	5	4	3	2	1	1/4 BSF			
3"	1 : 4	SCALE BOLT DIA	0.063	0.078	0.094	0.109	0.125	0.15	0.188	0.219	0.250	0.281	0.313	0.375			
		NEAREST BA SIZE	10	8	7	6	5	3	2	1	1/4 BSF	1/4 BSF	5/16 BSF	3/8 BSF			
4"	1 : 3	SCALE BOLT DIA	0.083	0.104	0.125	0.146	0.167	0.20	0.250	0.292	0.333	0.375	0.47	0.500			
		NEAREST BA SIZE	8	6	5	4	3	1	1/4 BSF	5/16 BSF	5/16 BSF	3/8 BSF	7/16 BSF	1/2 BSF			

BA nuts are correct scale A/F size for pre-WWII BSW sizes.

BA bolts with "one size smaller" heads are correct scale A/F size for BSF and post-WWII BSW sizes.

In practice, full size "bolts" below 3/8" dia. are more likely to be slotted head screws.

Odd BA sizes below 7BA, and even sizes below 16BA are ignored as these are difficult to obtain.



Scale Bolt Chart

Presented with:
'COSME Link'

Courtesy of
Ron Head.