

Table B.13—Tolerances on Gauge Dimensions for Working Gauges

1	2		3	
Element	Tolerances			
	Plug		Ring	
pitch diameter at gauge point ^a :	—		—	
pitch diameter ≤ 152 ^d	±0.010		—	
pitch diameter > 152	±0.013		—	
lead ^b :	—		—	
pitch diameter ≤ 152 ^e	±0.010		±0.015	
pitch diameter > 152	±0.013		±0.018	
taper ^c :	min	max	min	max
L_{rg} 89 and shorter	0	0.015	−0.036	−0.010
L_{rg} 90 through 102	0	0.018	−0.041	−0.010
L_{rg} 103 through 114	0	0.020	−0.046	−0.010
L_{rg} 115 through 127	0	0.023	−0.051	−0.010
L_{rg} 128 through 140	0	0.025	−0.056	−0.010
L_{rg} 141 and larger	0	0.028	−0.061	−0.010
half-angle of thread, degrees	±0.117		±0.25	
mating standoff, S	—		±0.025	
interchange standoff, Working gauge against Reference Master	±0.102		±0.102	
crest truncation, f_{cg}	±0.0318		±0.0318	
gauge lengths, L_{pg} and L_{rg}	±2.4		±2.4	
plug fitting plate diameter, D_{FP}	±0.4		—	
ring gauge outside diameter, D_R	—		±0.4	
ring gauge counterbore, Q	—		±0.4	
NOTE See Figure 20 for meaning of dimension.				
^a FOOTNOTE 1 Helix angle correction shall be disregarded in pitch diameter determinations. The gauge point for Working gauges is 34.925 mm from the measurement face.				
^b FOOTNOTE 2 Maximum allowable error in lead between any two threads, whether adjacent or separated by any amount not exceeding the full length of thread less one full thread at each end.				
^c FOOTNOTE 3 L_{rg} values are listed in Table B.9, column 4. The pitch cone of the ring gauge is provided with a minus taper in order to minimize variations in interchange standoff due to lead errors. See Figure 22 for meaning of taper limits.				
^d FOOTNOTE 4 The tolerance for pitch diameter for NC56 was historically ±0.013. This shall remain acceptable for gauges made before December 2008.				
^e FOOTNOTE 5 The tolerance for lead for NC56 was historically ±0.013 on the plug and ±0.018 on the ring. This shall remain acceptable for gauges made before December 2008.				

Annex C (normative)

Tables in USC Units

Table C.1—Product Thread Dimensions for Preferred Connections

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Connection Style and Size	Thread Form	Taper ^a <i>T</i> in./ft	Threads per Inch <i>n</i>	Pitch Diameter at Gauge Point <i>C</i>	Large Diameter of Pin <i>D_L</i> reference	Pin Cylinder Diameter <i>D_{LF}</i> ±0.016	Small Diameter of Pin <i>D_S</i> reference	Pin Length ^b <i>L_{PC}</i> 0 -0.125	Depth of Box Threads <i>L_{BT}</i> min	Total Box Depth <i>L_{BC}</i> +0.38 0	Box c/bore Diameter <i>Q_c</i> +0.031 -0.016	Depth of Box c/bore <i>L_{Qc}</i> +0.094 -0.031	Last Full Depth Thread <i>L_{ft}</i> ^c max
NC23	V-038R	2.0	4.0	2.35500	2.563	2.437	2.063	3.000	3.125	3.625	2.625	0.625	0.50
NC26	V-038R	2.0	4.0	2.66800	2.876	2.750	2.376	3.000	3.125	3.625	2.938	0.625	0.50
NC31	V-038R	2.0	4.0	3.18300	3.391	3.266	2.808	3.500	3.625	4.125	3.453	0.625	0.50
NC35	V-038R	2.0	4.0	3.53100	3.739	3.625	3.114	3.750	3.875	4.375	3.812	0.625	0.50
NC38	V-038R	2.0	4.0	3.80800	4.016	3.891	3.349	4.000	4.125	4.625	4.078	0.625	0.50
NC40	V-038R	2.0	4.0	4.07200	4.280	4.156	3.530	4.500	4.625	5.125	4.344	0.625	0.50
NC44	V-038R	2.0	4.0	4.41700	4.625	4.499	3.875	4.500	4.625	5.125	4.688	0.625	0.50
NC46	V-038R	2.0	4.0	4.62600	4.834	4.709	4.084	4.500	4.625	5.125	4.906	0.625	0.50
NC50	V-038R	2.0	4.0	5.04170	5.250	5.135	4.500	4.500	4.625	5.125	5.313	0.625	0.50
NC56	V-038R	3.0	4.0	5.61600	5.876	5.703	4.626	5.000	5.125	5.625	5.938	0.625	0.50
NC61	V-038R	3.0	4.0	6.17800	6.438	6.266	5.063	5.500	5.625	6.125	6.500	0.625	0.50
NC70	V-038R	3.0	4.0	7.05300	7.313	7.141	5.813	6.000	6.125	6.625	7.375	0.625	0.50
1 REG	V-055	1.5	6.0	1.15400	1.281	1.233	1.094	1.500	2.000	2.125	1.301	0.438	0.40
1½ REG	V-055	1.5	6.0	1.54100	1.668	1.621	1.418	2.000	2.125	2.625	1.688	0.438	0.40
2¾ REG	V-040	3.0	5.0	2.36537	2.625	2.515	1.875	3.000	3.125	3.625	2.688	0.625	0.50
2⅞ REG	V-040	3.0	5.0	2.74037	3.000	2.890	2.125	3.500	3.625	4.125	3.063	0.625	0.50
3½ REG	V-040	3.0	5.0	3.23987	3.500	3.390	2.562	3.750	3.875	4.375	3.563	0.625	0.50
4½ REG	V-040	3.0	5.0	4.36487	4.625	4.515	3.562	4.250	4.375	4.875	4.688	0.625	0.50
5½ REG	V-050	3.0	4.0	5.23402	5.519	5.410	4.332	4.750	4.875	5.375	5.578	0.625	0.50
6⅝ REG	V-050	2.0	4.0	5.75780	5.992	5.882	5.158	5.000	5.125	5.625	6.063	0.625	0.50
7⅝ REG	V-050	3.0	4.0	6.71453	7.000	6.890	5.688	5.250	5.375	5.875	7.094	0.625	0.50
8⅝ REG	V-050	3.0	4.0	7.66658	7.952	7.840	6.608	5.375	5.500	6.000	8.047	0.625	0.50
5½ FH	V-050	2.0	4.0	5.59100	5.825	5.715	4.991	5.000	5.125	5.625	5.906	0.625	0.50
6⅝ FH	V-050	2.0	4.0	6.51960	6.753	6.643	5.920	5.000	5.125	5.625	6.844	0.625	0.50

NOTE See Figures 1, 2, and 3.

^a FOOTNOTE 1 Taper (*T*) 2 in./ft corresponds to a half-angle of $\phi = 4.764^\circ$; 3 in./ft corresponds to a half-angle of $\phi = 7.125^\circ$; and 1.5 in./ft corresponds to a half-angle of $\phi = 3.576^\circ$.

^b FOOTNOTE 2 For roller cone drill bits only, the pin length may vary by 0/-0.2 in.

^c FOOTNOTE 3 Length to flank of first full depth pin thread.

Table C.2—Product Thread Form Dimensions

1	2	3	4	5	6	7	8
Thread Form		V-038R	V-038R	V-040	V-050	V-050	V-055
threads per inch	n	4	4	5	4	4	6
lead, ref	p	0.25	0.25	0.2	0.25	0.25	0.166667
half-angle, of thread	θ , deg ± 0.75	30	30	30	30	30	30
taper	T , in./ft	2	3	3	2	3	1.5
crest flat width	F_c	0.065	0.065	0.04	0.05	0.05	0.055
root radius	R	0.038	0.038	0.02	0.025	0.025	N/A
root flat width	F_r	—	—	—	—	—	0.047
root flat corner radius	$r_r \pm 0.008$	—	—	—	—	—	0.015
thread height, not truncated	H , ref	0.216005	0.215379	0.172303	0.216005	0.215379	0.144150
crest truncation	f_c , ref	0.056161	0.055998	0.034461	0.043201	0.043076	0.047569
root truncation	f_r , ref	0.038000	0.038000	0.020000	0.025000	0.025000	0.040650
thread height truncated	$h \begin{smallmatrix} +0.001 \\ -0.003 \end{smallmatrix}$	0.122	0.121	0.118	0.148	0.147	0.056
crest flat corner radius	$r_c \pm 0.008$	0.015	0.015	0.015	0.015	0.015	0.015

NOTE 1 See Figures 3 and 4 for meaning of dimensions.

NOTE 2 Dimensions without tolerances are design elements and are not auditable.

Table C.3—Bevel Diameters for Preferred Connections When Used on Drill Collars in USC Units

Connection Style and Size	Ref. ID ^d	Bevel Diameters for Various ODs ^{a,b,c}								
NC23	1.125	OD	3.125	—	—	—	—	—	—	—
		BD	3.000	—	—	—	—	—	—	—
NC26	1.500	OD	3.375	3.500	3.625	3.750	3.875	—	—	—
		BD	3.328 ^e	3.328 ^e	3.453	3.453	3.641	—	—	—
NC31	1.500	OD	4.125	4.250	4.375	—	—	—	—	—
		BD	4.000 ^e	4.000 ^e	4.141	—	—	—	—	—
NC35	2.000	OD	4.500	4.625	4.750	—	—	—	—	—
		BD	4.344	4.344	4.516	—	—	—	—	—
NC38	2.250	OD	4.750	4.875	5.000	5.125	5.250	—	—	—
		BD	4.641 ^e	4.641 ^e	4.766	4.766	4.953	—	—	—
NC40	2.000	OD	5.250	5.375	5.500	5.625	5.750	—	—	—
		BD	5.047 ^e	5.047 ^e	5.203	5.203	5.391	—	—	—
NC44	2.250	OD	5.500	5.625	5.750	5.875	6.000	6.125	6.250	—
		BD	5.438 ^e	5.438 ^e	5.500	5.500	5.688	5.688	5.875	—
NC46	2.250	OD	6.000	6.125	6.250	6.375	6.500	6.625	6.750	6.875
		BD	5.719 ^e	5.719 ^e	5.906	5.906	6.094	6.094	6.281	6.281
NC50	2.250	OD	6.375	6.500	6.625	6.750	6.875	7.000	7.125	7.250
		BD	6.344 ^e	6.344 ^e	6.344 ^e	6.344 ^e	6.484	6.484	6.672	6.672
NC56	2.500	OD	7.250	7.375	7.500	7.625	7.750	7.875	8.000	—
		BD	7.078 ^e	7.078 ^e	7.109	7.109	7.297	7.297	7.484	—
NC61	2.812	OD	8.000	8.250	8.375	8.500	8.625	8.750	8.875	9.000
		BD	7.766 ^e	7.812	7.812	8.000	8.000	8.188	8.188	8.375
NC70	2.812	OD	9.250	9.375	9.500	9.625	9.750	9.875	10.000	—
		BD	8.922 ^e	8.922 ^e	8.969	8.969	9.156	9.156	9.344	—
1 REG	0.500	OD	1.563	1.688	—	—	—	—	—	—
		BD	1.516	1.516	—	—	—	—	—	—
1½ REG	0.500	OD	2.063	2.188	—	—	—	—	—	—
		BD	2.000	2.000	—	—	—	—	—	—

Table C.3—Bevel Diameters for Preferred Connections When Used on Drill Collars in USC Units *(continued)*

Connection Style and Size	Ref. ID ^d	Bevel Diameters for Various ODs ^{a,b,c}								
2 ³ / ₈ REG	1.438	OD	3.125	3.250	3.375	3.500	—	—	—	—
		BD	3.016	3.016	3.203	3.203	—	—	—	—
2 ⁷ / ₈ REG	1.312	OD	3.875	—	—	—	—	—	—	—
		BD	3.578	—	—	—	—	—	—	—
3 ¹ / ₂ REG	1.500	OD	4.375	4.500	—	—	—	—	—	—
		BD	4.125 ^e	4.266	—	—	—	—	—	—
4 ¹ / ₂ REG	2.250	OD	5.500	5.625	5.750	5.875	6.000	—	—	—
		BD	5.422 ^e	5.422 ^e	5.484	5.484	5.672	—	—	—
5 ¹ / ₂ REG	2.500	OD	6.750	6.875	7.000	7.125	7.250	7.375	7.500	—
		BD	6.594 ^e	6.594 ^e	6.656	6.656	6.844	6.844	7.031	—
6 ⁵ / ₈ REG	2.812	OD	7.500	7.625	7.750	7.875	8.000	8.125	8.250	—
		BD	7.281 ^e	7.281 ^e	7.328	7.328	7.516	7.516	7.703	—
7 ⁵ / ₈ REG FF	2.812	OD	8.875	9.000	9.125	9.250	9.375	9.500	—	—
		BD	8.500 ^e	8.500 ^e	8.625	8.625	8.813	8.813	—	—
7 ⁵ / ₈ REG LT	2.500	OD	—	9.625	9.750	9.875	10.000	—	—	—
		BD	—	9.250	9.250	9.250	9.250	—	—	—
8 ⁵ / ₈ REG FF	3.000	OD	10.000	10.125	10.250	10.375	10.500	10.625	—	—
		BD	9.719 ^e	9.719 ^e	9.719 ^e	9.719 ^e	9.891	9.891	—	—
8 ⁵ / ₈ REG LT	3.000	OD	—	10.750	10.875	11.000	—	—	—	—
		BD	—	10.500	10.500	10.500	—	—	—	—
5 ¹ / ₂ FH	2.500	OD	7.250	7.375	7.500	7.625	7.750	7.875	8.000	—
		BD	7.047 ^e	7.047 ^e	7.094	7.094	7.281	7.281	7.469	—
6 ⁵ / ₈ FH	2.812	OD	8.500	8.625	8.750	8.875	9.000	9.125	9.250	—
		BD	8.203 ^e	8.203 ^e	8.266	8.266	8.453	8.453	8.641	—

NOTE See Figures 1 and 3.

^a FOOTNOTE 1 Tolerance on bevel diameters is ±0.016 in.

^b FOOTNOTE 2 See table 'Drill collar OD tolerances' in API 7-1 (ISO 10424-1).

^c FOOTNOTE 3 When drill collars and tools of the same OD listed in the table above are mated, the maximum seal stress will be less than 100 % of SMYS when torqued to the recommended torque value.

^d FOOTNOTE 4 See 5.2.4.

^e FOOTNOTE 5 These bevel diameters are not calculated using 75 % of the face width.

Table C.4—Low-torque Feature

1	2	3	4
Connection Size and Style	Required for OD Greater than:	Face Groove Diameter $D_{FG} \begin{smallmatrix} +0.032 \\ -0.016 \end{smallmatrix}$	Face Groove Radius $R_{FG} \pm 0.016$
7 ⁵ / ₈ REG LT	9.50	7.75	0.25
8 ⁵ / ₈ REG LT	10.50	9.00	0.25
NOTE See Figure 6.			

Table C.5—Optional Feature Dimensions

1	2	3
Connection Size and Style	Pin ID Taper Diameter $D_{PT} \begin{smallmatrix} +0.031 \\ -0.031 \end{smallmatrix}$ See Figure 1	Pin Benchmark Diameter $D_{PB} \begin{smallmatrix} +0.016 \\ 0 \end{smallmatrix}$ See Figure 12
NC23	—	2.468
NC26	—	2.781
NC31	2.000	3.297
NC35	2.312	3.656
NC38	2.500	3.922
NC40	2.625	4.187
NC44	2.875	4.531
NC46	3.000	4.740
NC50	3.250	5.166
NC56	3.250	5.734
NC61	3.250	6.297
NC70	4.125	7.172
1 REG	—	—
1 ¹ / ₂ REG	—	—
2 ³ / ₈ REG	—	2.546
2 ⁷ / ₈ REG	—	2.921
3 ¹ / ₂ REG	2.000	3.421
4 ¹ / ₂ REG	2.625	4.546
5 ¹ / ₂ REG	3.000	5.441
6 ⁵ / ₈ REG	3.375	5.913
7 ⁵ / ₈ REG	4.000	6.921
8 ⁵ / ₈ REG	4.375	7.871
5 ¹ / ₂ FH	3.500	5.746
6 ⁵ / ₈ FH	4.125	6.674

Table C.6—Stress-relief Groove and Boreback Contour Dimensions for Preferred Connections

1	2	3	4	5	6	7
Connection Size and Style	Box Boreback Contour			Box Groove		Diameter of Pin Groove
	Cylinder Diameter	Depth to Last Thread Scratch	Depth to End of Cylinder	Diameter of Box Groove	Depth to Start of Box Groove	
	D_{CB} $+0.016$ 0	L_X reference	L_{CYL} ± 0.25	D_{BG} $+0.031$ 0	L_{BG} 0 -0.125	
NC35	3.234	3.25	5.25	3.328	3.38	3.231
NC38	3.469	3.50	5.50	3.562	3.62	3.508
NC40	3.656	4.00	6.00	3.734	4.12	3.772
NC44	4.000	4.00	6.00	4.078	4.12	4.117
NC46	4.203	4.00	6.00	4.297	4.12	4.326
NC50	4.625	4.00	6.00	4.703	4.12	4.742
NC56	4.797	4.50	6.50	4.844	4.62	5.277
NC61	5.234	5.00	7.00	5.281	5.12	5.839
NC70	5.984	5.50	7.50	6.031	5.62	6.714
3½ REG	—	—	—	—	—	—
4½ REG	3.719	3.75	5.75	3.781	3.88	4.013
5½ REG	4.500	4.25	6.25	4.500	4.38	4.869
6⅝ REG	5.281	4.50	6.50	5.312	4.62	5.417
7⅝ REG	5.859	4.75	6.75	5.859	4.88	6.349
8⅝ REG	6.781	4.88	6.88	6.781	5.00	7.301
5½ FH	5.109	4.50	6.50	5.156	4.62	5.250
6⅝ FH	6.047	4.50	6.50	6.078	4.62	6.179
NOTE See Figures 7, 8, and 9 for meaning of dimensions.						

Table C.7—Compensated Thread Lengths, Thread Heights, and Ball-point Diameters

1	2	3	4	5	6	7
Thread Form	Taper T in./ft	Threads per Inch n	Compensated Lead Parallel to Taper ^a L_{ct}	Ball-point Diameter for Taper and Lead d_b ± 0.002	Thread Height Compensated for Taper ^b h_{cn}	Ball-point Diameter for Thread Height d_{bh} ± 0.002
V-038R	2	4	0.25087	0.144	0.1216	0.072
V-038R	3	4	0.25195	0.144	0.120	0.072
V-040	3	5	0.20156	0.115	0.1172	0.034
V-050	3	4	0.25195	0.144	0.1466	0.044
V-050	2	4	0.25087	0.144	0.1471	0.044
V-055	1.5	6	0.16699	0.096	0.0559	0.072

NOTE See Figures 15 and 16 for meaning of dimensions.

^a FOOTNOTE 1 Compensated thread length (L_{ct}) is for measurements parallel to the taper cone. Non-compensated thread length is parallel to thread axis.

^b FOOTNOTE 2 Compensated thread height (h_{cn}) is for measurements normal to the taper cone. Non-compensated thread height is normal to thread axis. Values correspond to depth dimension in Table C.2. Thread height from non-truncated base dimensions, truncated after calculation.

Table C.8—Gauge Thread Form Dimensions

1	2	3	4	5	6	7	8	9
Form of Thread	Threads per Inch n	Lead	Half-angle θ degrees	Taper T in./ft	Thread Height Not Truncated H reference	Gauge Root Truncation f_{rg} max	Gauge Crest Truncation f_{cg}	Thread Height Truncated h_g reference
V-038R	4	0.250000	30	2	0.216005	0.053385	0.065000	0.0976
V-038R	4	0.250000	30	3	0.215379	0.053385	0.065000	0.0970
V-040	5	0.200000	30	3	0.172303	0.039460	0.039460	0.0934
V-050	4	0.250000	30	3	0.215379	0.048080	0.048080	0.1192
V-050	4	0.250000	30	2	0.216005	0.048200	0.048200	0.1196
V-055	6	0.166667	30	1.5	0.144150	0.055100	0.055100	0.03395

NOTE 1 In computing thread height and truncation, account has been taken of the effect of taper in reducing thread height for a given pitch, as compared with values for the same pitch on a cylinder.

NOTE 2 See Tables C.11 through C.13 for tolerances on columns 3, 4, 5, and 8.

NOTE 3 Prior to March 2005 the Crest truncation for V-038R gauges with 2 in./ft taper was 0.061161, and with 3 in./ft taper was 0.060998. These values are still acceptable for existing gauges made prior to this date.

NOTE 4 See Figure 18 for meaning of dimensions.

Table C.9—Gauge Thread Dimensions for Preferred Connections

1	2	3	4	5	6	7	8	9
Style and Size	Thread Form	Taper T in./ft	Threads per Inch n	Pitch Diameter at Gauge Point ^a C	Major (Plug) Reference ^a D_{MP}	Minor (Ring) Reference ^b D_{MR}	Pitch Diameter at Working Gauge Point ^c C_{GP}	Gauge Standoff S
NC23	V-038R	2.0	4	2.35500	2.44101	2.26900	2.23000	0.6250
NC26	V-038R	2.0	4	2.66800	2.75401	2.58200	2.54300	0.6250
NC31	V-038R	2.0	4	3.18300	3.26901	3.09700	3.05800	0.6250
NC35	V-038R	2.0	4	3.53100	3.61701	3.44500	3.40600	0.6250
NC38	V-038R	2.0	4	3.80800	3.89401	3.72200	3.68300	0.6250
NC40	V-038R	2.0	4	4.07200	4.15801	3.98600	3.94700	0.6250
NC44	V-038R	2.0	4	4.41700	4.50301	4.33100	4.29200	0.6250
NC46	V-038R	2.0	4	4.62600	4.71201	4.54000	4.50100	0.6250
NC50	V-038R	2.0	4	5.04170	5.12771	4.95570	4.91670	0.6250
NC56	V-038R	3.0	4	5.61600	5.70138	5.53062	5.42850	0.6250
NC61	V-038R	3.0	4	6.17800	6.26338	6.09262	5.99050	0.6250
NC70	V-038R	3.0	4	7.05300	7.13838	6.96762	6.86550	0.6250
1 REG	V-055	1.5	6	1.15400	1.18795	1.12005	1.06025	0.3750
1½ REG	V-055	1.5	6	1.54100	1.57495	1.50705	1.44725	0.3750
2¾ REG	V-040	3.0	5	2.36537	2.45875	2.27199	2.17787	0.6250
2⅞ REG	V-040	3.0	5	2.74037	2.83375	2.64699	2.55287	0.6250
3½ REG	V-040	3.0	5	3.23987	3.33325	3.14649	3.05237	0.6250
4½ REG	V-040	3.0	5	4.36487	4.45825	4.27149	4.17737	0.6250
5½ REG	V-050	3.0	4	5.23402	5.35324	5.11480	5.04652	0.6250
6⅝ REG	V-050	2.0	4	5.75780	5.87740	5.63820	5.63280	0.6250
7⅝ REG	V-050	3.0	4	6.71453	6.83375	6.59531	6.52703	0.6250
8⅝ REG	V-050	3.0	4	7.66658	7.78580	7.54736	7.47908	0.6250
5½ FH	V-050	2.0	4	5.59100	5.71060	5.47140	5.46600	0.6250
6⅝ FH	V-050	2.0	4	6.51960	6.63920	6.40000	6.39460	0.6250
NOTE See Figures 19 and 20 for meaning of dimensions.								
^a FOOTNOTE 1 The values in columns 5 and 6 apply only to Grand, Regional, and Reference Master plug gauges.								
^b FOOTNOTE 2 The values in column 7 apply only to ring gauges.								
^c FOOTNOTE 3 The values in column 8 apply only to Working plug gauges.								

Table C.10—Gauge External Dimensions for Preferred Connections

1	2	3	4	5	6
Style and Size	Plug Gauge Length	Fitting Plate ^b Diameter	Ring Gauge Length	Ring Gauge Outside Diameter	Diameter of Ring Gauge Counterbore
	L_{pg}	D_{FP}	L_{rg}	D_R	Q
NC23	3.000	2.056	2.375	3.875	2.521
NC26	3.000	2.369	2.375	4.187	2.834
NC31	3.500	2.884	2.875	5.125	3.349
NC35	3.750	3.232	3.125	5.250	3.697
NC38	4.000	3.509	3.375	5.625	3.974
NC40	4.500	3.773	3.875	5.875	4.239
NC44	4.500	4.118	3.875	6.375	4.583
NC46	4.500	4.327	3.875	6.500	4.792
NC50	4.500	4.743	3.875	7.125	5.208
NC56	5.000	5.318	4.375	7.875	5.782
NC61	5.500	5.880	4.875	8.500	6.344
NC70	6.000	6.755	5.375	9.375	7.219
1 REG	1.500	a	1.125	2.500	1.360
1½ REG	2.000	a	1.625	2.875	1.688
2¾ REG	3.000	2.131	2.375	3.750	2.531
2⅞ REG	3.500	2.506	2.875	4.250	2.906
3½ REG	3.750	3.005	3.125	5.000	3.406
4½ REG	4.250	4.130	3.625	6.250	4.531
5½ REG	4.750	4.956	4.125	7.500	5.427
6⅝ REG	5.000	5.448	4.375	8.250	5.949
7⅝ REG	5.250	6.421	4.625	9.500	6.906
8⅝ REG	5.375	7.373	4.750	10.750	7.858
5½ FH	5.000	5.292	4.375	7.750	5.784
6⅝ FH	5.000	6.210	4.375	9.000	6.711

NOTE See Figures 19 and 20 for meaning of dimensions.

^a FOOTNOTE There is no fitting plate on 1 REG and 1½ REG.

^b FOOTNOTE The thickness of fitting plates, T_{FP} , shall be 0.375 in. maximum for all gauge sizes with pitch diameter (C) of 5.6 in. or smaller and 0.437 in. maximum for all larger gauge sizes.

Table C.11—Tolerances on Gauge Dimensions for Regional and Grand Master Gauges

1	2	3
Element	Tolerances	
	Plug	Ring
pitch diameter at gauge point ^a :	±0.0002	—
lead ^b :	—	—
pitch diameter ≤ 3.90	±0.0002	±0.0003
pitch diameter > 3.90	±0.0003	±0.0004
taper limits ^c :	min	max
all	0.0001	0.0004
half-angle of thread, degrees	±0.083	±0.167
mating standoff, <i>S</i>	—	±0.001
interchange standoff, Regional Master against Grand Master	±0.004	±0.004
crest truncation, <i>f_{cg}</i>	±0.00112	±0.00110
gauge lengths, <i>L_{pg}</i> and <i>L_{rg}</i>	±0.093	±0.093
plug fitting plate diameter, <i>D_{FP}</i>	±0.015	—
ring gauge outside diameter, <i>D_R</i>	—	±0.015
ring gauge counterbore, <i>Q</i>	—	±0.015
NOTE See Figure 19.		
^a FOOTNOTE 1 Helix angle correction shall be disregarded in pitch diameter determinations. ^b FOOTNOTE 2 Maximum allowable error in lead between any two threads, whether adjacent or separated by any amount not exceeding the full length of thread less one full thread at each end. ^c FOOTNOTE 3 The pitch cone of the ring gauge is provided with a minus taper in order to minimize variations in interchange standoff due to lead errors. See Figure 22 for meaning of taper limits.		