

Fed. Std. No. 346C

April 28, 1976

SUPERSEDING

Fed. Std. No. 346B

March 12, 1974

FEDERAL STANDARD

GAGES, WRENCH OPENING

This standard was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

S1. PURPOSE AND SCOPE

This Federal standard establishes the sizes for gages for wrench openings in items procured by the Federal Government. The gages do not cover every available size, but only those most commonly procured.

S2. APPLICATION

The gages covered by this standard shall be used to insure receipt of conforming products in inch and metric sizes.

S3. REQUIREMENT

The gages shall be similar to, and with dimensions as shown in figure 1, except for nominal sizes of 3 inches or 75mm and greater where the D and E dimensions need only be equal to or greater than the required minimum depth of opening for the product being measured. The gages shall be of the sizes and tolerances shown in tables I and II.

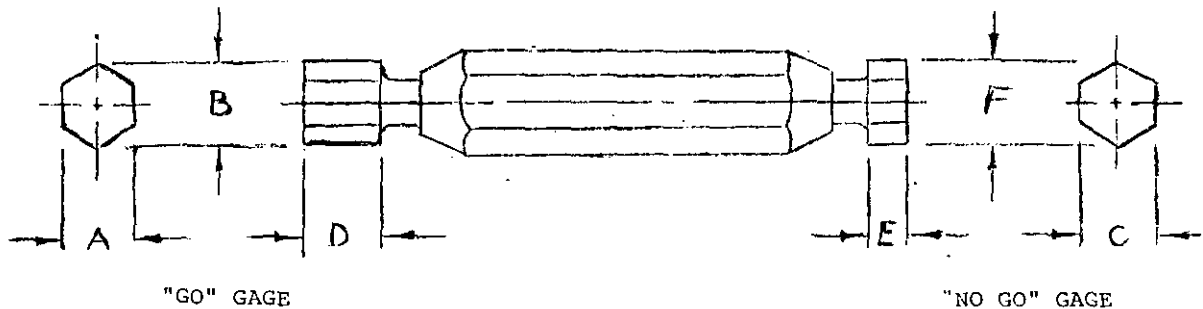


FIGURE 1.

B = Nominal size x 1.1550

Tolerance = +.0002
 = -.0000

Shall be typical or diameter

D = A minimum dimension equal to the nominal size.

E = A minimum dimension equal to 1/2 nominal size.

F = Nominal size x 1.1550

Tolerance = +.0002
 = -.0000

Shall be typical or diameter

TABLE I.

Nominal size Inch	A (GO)	C (NO-GO)
	+ 0.0001 - .0000	- 0.0001 + .0000
5/32	0.1570	0.1633
3/16	.1890	.1953
13/64	.2040	.2103
7/32	.2200	.2263
15/64	.2350	.2413
1/4	.2510	.2573
17/64	.2670	.2733
9/32	.2820	.2883
19/64	.2980	.3043
5/16	.3150	.3223
11/32	.3460	.3533
3/8	.3770	.3843
13/32	.4080	.4153
7/16	.4390	.4463
1/2	.5030	.5103
9/16	.5650	.5733
5/8	.6280	.6363
11/16	.6910	.6993
3/4	.7540	.7633
13/16	.8170	.8263
7/8	.8790	.8883
15/16	.9430	.9533
1	1.0050	1.0153
1-1/16	1.0667	1.0775
1-1/8	1.1307	1.1425
1-3/16	1.1927	1.2045
1-1/4	1.2557	1.2675
1-5/16	1.3187	1.3315
1-3/8	1.3817	1.3945
1-7/16	1.4447	1.4575
1-1/2	1.5067	1.5205
1-5/8	1.6327	1.6465
1-11/16	1.6947	1.7085
1-3/4	1.7606	1.7735
1-13/16	1.8207	1.8355
1-7/8	1.8837	1.8985
2	2.0097	2.0255
2-1/16	2.0727	2.0885
2-3/16	2.1987	2.2155
2-1/4	2.2607	2.2775
2-3/8	2.3867	2.4045
2-7/16	2.4487	2.4665
2-9/16	2.5747	2.5935
2-5/8	2.6377	2.6565
2-3/4	2.7647	2.7835
2-13/16	2.8257	2.8455
2-15/16	2.9527	2.9735

TABLE I. (CON.)

Nominal size Inch	A (GO)	C (NO-GO)
	+ 0.0001 - .0000	- 0.0001 + .0000
3	3.0147	3.0355
3-1/8	3.1407	3.1625
3-3/8	3.3917	3.4145
3-1/2	3.5167	3.5405
3-3/4	3.7687	3.7935
3-7/8	3.8937	3.9185
4-1/8	4.1457	4.1725
4-1/4	4.2707	4.2975
4-1/2	4.5227	4.5505
4-5/8	4.6477	4.6765
5	5.0247	5.0555
5-3/8	5.4017	5.4345
5-3/4	5.7787	5.8135
6-1/8	6.1557	6.1925

TABLE II

Nominal Size	A (GO)		C (NO-GO)	
	+.003 mm -.000		+.000 mm -.003	
mm.	mm.	in.	mm.	in.
3.2	3.22	.1268	3.29	.1295
4	4.02	.1583	4.13	.1626
5	5.02	.1976	5.13	.2020
5.5	5.52	.2173	5.63	.2217
6	6.03	.2374	6.16	.2425
6.3	6.33	.2492	6.46	.2543
7	7.03	.2768	7.16	.2819
8	8.03	.3161	8.16	.3213
9	9.03	.3555	9.16	.3606
10	10.04	.3953	10.20	.4016
11	11.04	.4346	11.20	.4409
12	12.04	.4740	12.25	.4823
13	13.04	.5134	13.25	.5217
14	14.05	.5531	14.28	.5622
15	15.05	.5925	15.28	.6016
16	16.05	.6319	16.28	.6409
17	17.05	.6713	17.31	.6815
18	18.05	.7106	18.31	.7209
19	19.06	.7504	19.37	.7626
20	20.06	.7898	20.37	.8020
21	21.06	.8291	21.37	.8413
22	22.06	.8685	22.37	.8807
23	23.06	.9079	23.37	.9201
24	24.06	.9472	24.37	.9594
25	25.06	.9866	25.37	.9988

TABLE II (CON.)

Nominal Size	A (GO)		C (NO-GO)	
	+0.003 mm -0.000		+0.000mm -0.003	
mm.	mm.	in.	mm.	in.
26	26.08	1.0268	26.49	1.0429
27	27.08	1.0661	27.49	1.0823
28	28.08	1.1055	28.49	1.1217
29	29.08	1.1449	29.49	1.1610
30	30.08	1.1843	30.49	1.2004
31	31.08	1.2236	31.49	1.2398
32	32.08	1.2630	32.49	1.2791
33	33.10	1.3031	33.61	1.3232
34	34.10	1.3425	34.61	1.3626
35	35.10	1.3819	35.61	1.4020
36	36.10	1.4213	36.61	1.4413
37	37.10	1.4606	37.61	1.4807
38	38.10	1.5000	38.61	1.5201
39	39.10	1.5394	39.61	1.5594
40	40.10	1.5787	40.61	1.5988
41	41.10	1.6181	41.61	1.6382
42	42.10	1.6575	42.61	1.6776
43	43.10	1.6969	43.61	1.7169
44	44.10	1.7362	44.61	1.7563
45	45.10	1.7756	45.61	1.7957
46	46.10	1.8150	46.61	1.8350
47	47.10	1.8543	47.61	1.8744
48	48.10	1.8937	48.61	1.9138
49	49.10	1.9331	49.61	1.9531
50	50.10	1.9724	50.61	1.9925
55	55.12	2.1701	55.73	2.1941
60	60.12	2.3669	60.73	2.3909
65	65.12	2.5638	65.73	2.5878
70	70.12	2.7606	70.73	2.7846
75	75.12	2.9575	75.73	2.9815
80	80.12	3.1543	80.73	3.1783
85	85.14	3.3520	85.85	3.3799
90	90.14	3.5488	90.85	3.5768
95	95.14	3.7457	95.85	3.7736
100	100.14	3.9425	100.85	3.9705
105	105.14	4.1394	105.85	4.1673
110	110.14	4.3362	110.85	4.3642
115	115.14	4.5331	115.85	4.5610
120	120.14	4.7299	120.85	4.7579
130	130.16	5.1244	130.97	5.1563
135	135.16	5.3213	135.97	5.3532
145	145.16	5.7150	145.97	5.7469
150	150.16	5.9118	150.97	5.9437
155	155.16	6.1087	155.97	6.1406
165	165.16	6.5024	165.97	6.5343
170	170.16	6.6992	170.97	6.7311
180	180.16	7.0929	180.97	7.1248
185	185.16	7.2906	186.09	7.3264
200	200.18	7.8811	201.09	7.9169
210	210.18	8.2748	211.09	8.3106

S4. MATERIAL

The gaging members shall be made of alloy tool steel, suitable for the purpose intended, through hardened to Rockwell "C" 62 minimum. Gage rework procedures, such as hard chrome build-up when the gages wear, will be acceptable.

S5..USE

The gages shall be used in accordance with accepted practices. Reasonable hand force may be used in the gaging process. It is understood that manufacturers may use gages with tighter dimensions and tolerances than those shown herein to insure product acceptance.

S6. CHANGES

When a Federal agency considers that this standard does not provide for its essential needs, written request for changing or adding to the standard, supported by adequate justification, shall be sent to the Administration. This justification shall explain wherein the standard does not provide for essential needs. The request shall be sent in duplicate to the General Services Administration, Federal Supply Service, Washington, DC 20406. The Administration will determine the appropriate action to be taken and will notify the agency.

S7. CONFLICT WITH REFERENCED SPECIFICATIONS

Where the requirements stated in this standard conflict with any requirement in a referenced specification, the requirements of the standard shall apply. Nature of conflict between the standard and the referenced specification shall be submitted in duplicate to the General Services Administration, Federal Supply Service, Washington, DC 20406.

This document is available from the General Services Administration (GSA), acting as agent for the Superintendent of Documents. A copy for bidding and contracting purposes is available from GSA Business Service Centers. Copies are for sale at the GSA, Specification Sales, Building 197 (Washington Navy Yard), Washington, DC 20407 for 30 cents each.