

USER SYMBOLS:

REVIEWER SYMBOLS:

ARMY - AR, ME,  
NAVY - AS  
USAF - 99  
DLA - IS

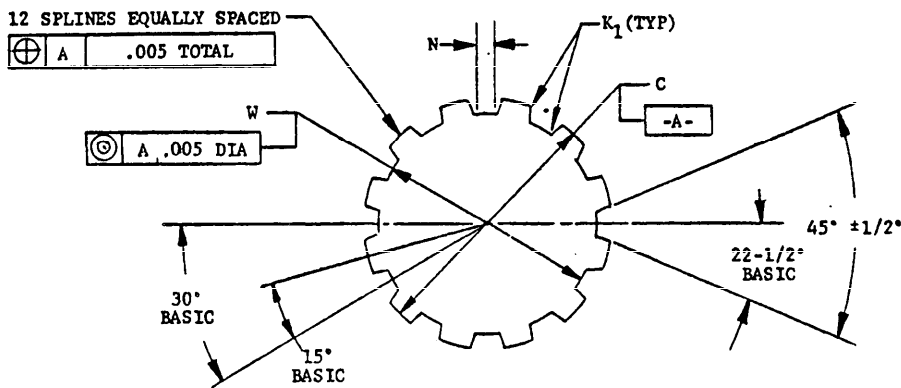


TABLE I - ELEMENT DIMENSIONS

ELEMENT NUMBER	WRENCH SIZE REF	C DIA		W DIA		N		K <sub>1</sub> RADIUS	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
6	.188	.228	.235	.189	.194	.020	.026		
7	.219	.264	.271	.222	.227	.023	.029	.003	.008
8	.250	.301	.308	.253	.259	.026	.032		
9	.281	.337	.345	.285	.291	.029	.035		
10	.312	.373	.381	.318	.324	.031	.037	.005	.010
12	.375	.447	.456	.383	.389	.037	.043		
14	.438	.522	.531	.448	.455	.043	.050		
16	.500	.595	.605	.514	.521	.048	.055		
18	.562	.668	.679	.578	.585	.054	.061	.005	.015
20	.625	.742	.753	.644	.651	.060	.068		
22	.688	.817	.828	.711	.717	.065	.073	.005	.020
24	.750	.890	.901	.774	.782	.071	.079		
26	.812	.963	.974	.838	.846	.077	.086		
28	.875	1.037	1.049	.904	.912	.082	.091	.005	.025
30	.938	1.112	1.124	.970	.978	.088	.097		
32	1.000	1.185	1.197	1.034	1.042	.094	.103		
34	1.062	1.258	1.270	1.099	1.107	.099	.108	.010	.030
36	1.125	1.333	1.345	1.165	1.173	.105	.114		
38	1.188	1.406	1.419	1.229	1.239	.111	.120		
40	1.250	1.480	1.493	1.293	1.303	.116	.125	.010	.035
42	1.312	1.553	1.566	1.358	1.368	.122	.131		
44	1.375	1.628	1.641	1.424	1.434	.127	.136		
46	1.438	1.702	1.715	1.489	1.499	.133	.142	.010	.040
48	1.500	1.775	1.788	1.554	1.564	.139	.148		
50	1.562	1.849	1.862	1.619	1.629	.144	.154		
52	1.625	1.924	1.937	1.685	1.695	.150	.160	.015	.045
54	1.688	1.998	2.011	1.750	1.760	.156	.166		
56	1.750	2.072	2.085	1.815	1.825	.161	.171		
58	1.812	2.145	2.158	1.880	1.890	.167	.177		
60	1.875	2.219	2.233	1.945	1.955	.173	.183		
62	1.938	2.293	2.307	2.011	2.021	.178	.189		
64	2.000	2.367	2.381	2.076	2.086	.184	.195	.015	.050
66	2.062	2.440	2.454	2.141	2.151	.189	.200		
68	2.125	2.514	2.528	2.206	2.216	.195	.206		
70	2.188	2.589	2.603	2.271	2.281	.201	.212		

NOTES:

1. TOLERANCES SHALL NOT BE CUMULATIVE.
2. DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED.
3. THE GOVERNMENT HAS A ROYALTY FREE LICENSE UNDER U.S. PATENT 3,354,757 FOR THE BENEFIT OF MANUFACTURERS OF THIS WRENCHING ELEMENT EITHER FOR THE GOVERNMENT OR FOR USE IN EQUIPMENT TO BE DELIVERED TO THE GOVERNMENT.

THIS IS A DESIGN STANDARD AND SHALL NOT BE USED AS A PART NUMBER.

(D) DENOTES CHANGES

\*Review/user information is current as of the date of this document. For future coordination of changes to this document, draft circulation should be based on the information in the current DODISS.

This military standard is approved for use by all Departments & Agencies of the Department of Defense. Selection for all new engineering and design applications and for repetitive use shall be made from this document.

APPROVED 6 MAY 1969 REVISED (A) 3 DEC 73 (B) 15 AUG 1977 (C) 6 DECEMBER 1978 (D) 18 APR 1984

P. A. NAVY - AS Other Cust USAF - 11 ARMY - AV	TITLE	MILITARY STANDARD
	WRENCHING ELEMENT, EXTERNAL SPLINE, DIMENSIONS FOR	MS33787
PROCUREMENT SPECIFICATION	SUPERSEDES:	SHEET 1 OF 2

FED. SUP CLASS  
5120

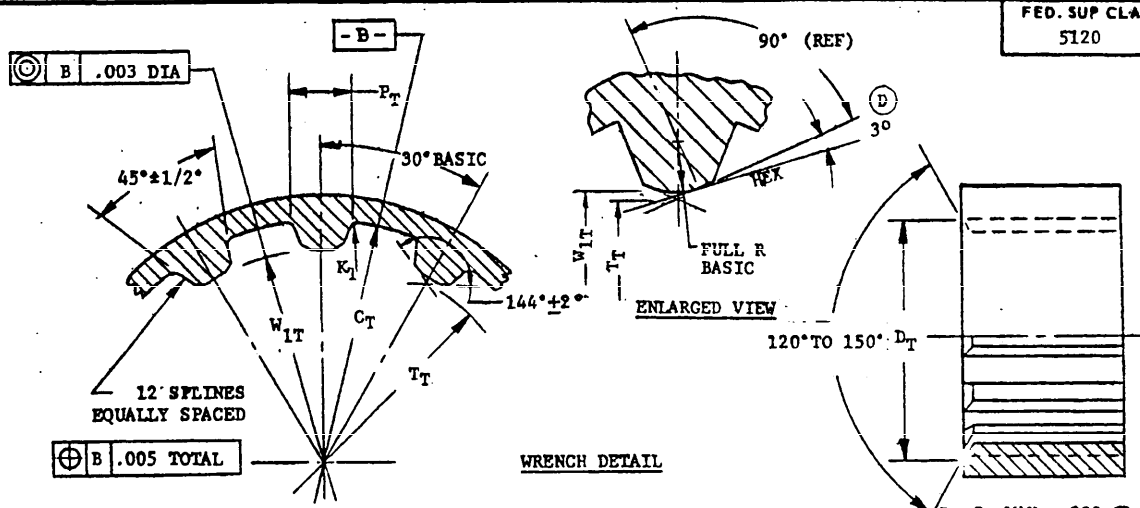


TABLE II - WRENCH DIMENSIONS

WRENCH NO.	WRENCH SIZE REF	W <sub>IT</sub> DIA		C <sub>T</sub> DIA		P <sub>T</sub>		T <sub>T</sub>		K <sub>T</sub> RADIUS		FULL R BASIC
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
6	.188	.198	.202	.240	.244	.029	.036	.1967	.2008			.013
7	.219	.229	.234	.276	.280	.033	.040	.2278	.2319			.015
8	.250	.263	.267	.313	.317	.038	.045	.2609	.2650			.018
9	.281	.295	.299	.350	.354	.043	.050	.2930	.2971			.020
10	.312	.329	.334	.386	.390	.046	.054	.3271	.3313	.005	.010	.022
12	.375	.394	.398	.461	.465	.055	.063	.3913	.3955			.026
14	.438	.458	.463	.536	.541	.064	.073	.4555	.4597			.031
16	.500	.525	.531	.610	.615	.073	.082	.5218	.5270			.035
18	.562	.590	.596	.684	.689	.082	.092	.5860	.5911			.039
20	.625	.655	.662	.758	.764	.091	.101	.6512	.6574			.044
22	.688	.721	.728	.833	.839	.099	.110	.7164	.7226	.010	.015	.048
24	.750	.786	.795	.906	.912	.108	.119	.7816	.7889			.053
26	.812	.852	.862	.979	.986	.116	.128	.8469	.8551			.057
28	.875	.917	.926	1.054	1.061	.126	.138	.9110	.9193			.061
30	.938	.983	.994	1.129	1.136	.135	.147	.9773	.9866			.066
32	1.000	1.048	1.059	1.202	1.209	.144	.156	1.0415	1.0508			.070
34	1.062	1.112	1.125	1.275	1.282	.153	.165	1.1057	1.1160			.074
36	1.125	1.179	1.191	1.350	1.357	.163	.175	1.1719	1.1823			.079
38	1.188	1.245	1.255	1.424	1.431	.172	.184	1.2372	1.2454			.083
40	1.250	1.309	1.323	1.498	1.505	.181	.193	1.3013	1.3127	.010	.020	.088
42	1.312	1.375	1.387	1.571	1.578	.191	.203	1.3666	1.3759			.092
44	1.375	1.441	1.454	1.646	1.653	.200	.212	1.4318	1.4432			.096
46	1.438	1.506	1.520	1.720	1.727	.209	.221	1.4970	1.5084			.101
48	1.500	1.571	1.586	1.793	1.800	.218	.230	1.5612	1.5736			.105
50	1.562	1.635	1.650	1.867	1.875	.227	.240	1.6254	1.6378			.109
52	1.625	1.702	1.717	1.942	1.950	.236	.249	1.6916	1.7041			.114
54	1.688	1.767	1.783	2.016	2.024	.245	.258	1.7558	1.7693			.118
56	1.750	1.833	1.850	2.090	2.098	.255	.268	1.8221	1.8355			.123
58	1.812	1.898	1.914	2.163	2.171	.264	.277	1.8863	1.8997			.127
60	1.875	1.963	1.980	2.238	2.246	.273	.286	1.9515	1.9650	.010	.025	.131
62	1.938	2.029	2.047	2.312	2.321	.282	.295	2.0167	2.0312			.136
64	2.000	2.095	2.113	2.386	2.395	.292	.305	2.0819	2.0819			.140
66	2.062	2.160	2.178	2.459	2.468	.301	.314	2.1472	2.1617			.144
68	2.125	2.226	2.245	2.533	2.543	.310	.323	2.2124	2.2279			.149
70	2.188	2.292	2.311	2.608	2.618	.320	.333	2.2776	2.2931			.153

NOTE: T<sub>T</sub> IS THE THEORETICAL INTERSECTION OF THE 144° ± 2° SURFACES. T<sub>T</sub> DEFINES THE SIZE OF INSCRIBED HEXAGON BY THE RELATIONSHIP: T<sub>T</sub> = HEXAGON SIZE + COS 15°

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		MS33787	
PROCUREMENT SPECIFICATION	SUPERSEDES:	SHEET	2 OF 2

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