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REVISIONS: 15, AT, MI, MU, NSA, OS, BS
(SERIES, CL, NC, TO, AS)

FIG. 1
SEE NOTE 6

FIG. 2
30°
+0°
-15°

FIG. 3
30° APPROX

OPTIONAL DESIGN

FED. SUP. CLASS
5305

TABLE 1

NOMINAL SIZE	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	
B THREAD UNC-2A	20	18	16	14	13	12	11	10	9	
D BODY DIAMETER	MAX MIN	.2500 .2450	.3125 .3065	.3750 .3690	.4375 .4305	.5000 .4930	.5625 .5545	.6250 .6170	.7500 .7410	.8750 .8660
F WIDTH ACROSS FLATS	MAX MIN	.4375 .4290	.5000 .4890	.5625 .5510	.6250 .6120	.7500 .7360	.8125 .7980	.9375 .9220	1.1250 1.1000	1.3125 1.2850
G WIDTH ACROSS CORNERS	MAX MIN	.505 .488	.577 .557	.650 .628	.722 .698	.866 .840	.938 .910	1.083 1.051	1.299 1.254	1.516 1.463
H HEAD HEIGHT	MAX MIN	.163 .150	.211 .195	.243 .226	.291 .273	.323 .302	.371 .348	.403 .378	.483 .455	.563 .531
R RADIUS	MAX MIN	.025 .015	.025 .015	.025 .015	.025 .015	.025 .015	.045 .020	.045 .020	.045 .020	.065 .040
* MIN TENSILE STRENGTH - LBS		1,800	2,300	3,300	12,800	17,000	21,800	27,100	40,100	55,400

L LENGTH	TOLERANCE		DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.
	SIZE 3/4 AND UNDER	SIZE 7/8									
.375	+0 -.031	+0 -.062	1	27	53						
.438			2	28	54						
.500			3	29	55		104				
.562			4	30	56	79	105	130			
.625			5	31	57	80	106	131	155		
.750			6	32	58	81	107	132	156	179	
.875			7	33	59	82	108	133	157	180	202
1.000			8	34	60	83	109	134	158	181	203
1.125	+0 -.062	+0 -.125	9	35	61	86	110	135	159	182	204
1.250			10	36	62	87	111	136	160	183	205
1.375			11	37	63	88	112	137	161	184	206
1.500			12	38	64	89	113	138	162	185	207
1.750			13	39	65	90	114	139	163	186	208
2.000			14	40	66	91	115	140	164	187	209
2.250			15	41	67	92	116	141	165	188	210
2.500			16	42	68	93	117	142	166	189	211
2.750	+0 -.094	+0 -.154	17	43	69	94	118	143	167	190	212
3.000			18	44	70	95	119	144	168	191	213
3.250			19	45	71	96	120	145	169	192	214
3.500			20	46	72	97	121	146	170	193	215
3.750			21	47	73	98	122	147	171	194	216
4.000			22	48	74	99	123	148	172	195	217
4.250			23	49	75	100	124	149	173	196	218
4.500			24	50	76	101	125	150	174	197	219
4.750	+0 -.180	---	25	51	77	102	126	151	175	198	220
5.000			26	52	78	103	127	152	176	199	221
5.500						128	153	177	200	222	
6.000						129	154	178	201	223	

(D) CROSS REFERENCE OF PART NUMBERS

The screws covered by dash numbers given in MS15249, MS15293, MS15295, MS15297 and MS15399 are cancelled after the dates indicated on the cancelled documents. Use dash numbers used in this standard. The cancelled screws cannot always replace the new screws and should be used until existing stocks are depleted. Use only the new screws for design and replacement. Dash numbers representing old and new screws are identical, making it unnecessary to prepare an interchangeability table.

(D) For changes see sheet 1.

P.A. VC	TITLE	MILITARY STANDARD
Other Code SN 82	SCREW, CAP, HEXAGON HEAD (FINISHED HEXAGON BOLT), STEEL, GRADE 5, CADMIUM PLATED, UNC-2A	MS90725
PROCUREMENT SPECIFICATION PF-3-B5	SUPPLEMENT See note 11	SHEET 1 OF 2

DD FORM 672-1 (Continued)

REVIEWER: AV, IS, AT, MI, MU, NSA, OS, 05
 USER: MI, CL, NC, YD, AS

TABLE 11										FED. SUP CLASS 5305
NOMINAL SIZE		1	1-1/8	1-1/4	1-3/8	1-1/2	1-3/4	2	2-1/4	2-1/2
B THREAD UNC-2A		b	7	7	6	6	5	4-1/2	4-1/2	4
D BODY DIAMETER	MAX MIN	1.0000 .9900	1.1250 1.1140	1.2500 1.2390	1.3750 1.3630	1.5000 1.4880	1.7500 1.7380	2.0000 1.9880	2.2500 2.2380	2.5000 2.4880
F WIDTH ACROSS FLATS	MAX MIN	1.4000 1.4690	1.6875 1.6810	1.8750 1.8120	2.0625 1.9940	2.2500 2.1750	2.6250 2.5380	3.0000 2.9000	3.3750 3.2620	3.7500 3.6250
G WIDTH ACROSS CORNERS	MAX MIN	1.732 1.675	1.944 1.819	2.145 2.066	2.342 2.273	2.598 2.480	3.031 2.893	3.464 3.306	3.897 3.719	4.330 4.133
H HEAD HEIGHT	MAX MIN	.627 .591	.714 .654	.813 .749	.918 .810	.974 .902	1.134 1.054	1.263 1.175	1.423 1.327	1.583 1.479
R RADIUS	MAX MIN	.095 .060	.095 .060	.095 .060	.095 .060	.095 .060	.095 .060	.095 .060	.095 .060	.095 .060
* MIN TENSILE STRENGTH - LBS		72,700	80,100	101,700	121,300	147,500	171,000	225,000	292,500	360,000
L LENGTH	TOLERANCE	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.
1.000	+0, -.062	224								
1.125		225	245							
1.250		226	246							
1.375		227	247	265						
1.500	+0 -.125	228	248	266	284					
1.750		229	249	267	285	102				
2.000		230	250	268	286	103	119			
				269	287	104	120			
2.250		231	251	270	288	105	121	135		
2.500		232	252	271	289	106	122	136		
2.750		233	253	272	290	107	123	137	149	161
3.000		234	254	273	291	108	124	138	150	162
3.250		235	255	274	292	109	125	139	151	163
3.500		236	256	275	293	110	126	140	152	164
3.750	+0 -.168	237	257	276	294	111	127	141	153	165
4.000		238	258	277	295	112	128	142	154	166
4.250		239	259	278	296	113	129	143	155	167
4.500		240	260	279	297	114	130	144	156	168
4.750		241	261	280	298	115	131	145	157	169
5.000		242	262	281	299	116	132	146	158	170
5.500		243	263	282	300	117	133	147	159	171
6.000		244	264	283	301	118	134	148	160	172

NOTES:

1. MATERIAL: Medium carbon steel, Grade 5, in accordance with procurement specification.
2. PROTECTIVE COATING: Cadmium plating in accordance with procurement specification.
3. THREADS: The threads shall be in accordance with Screw-Thread Standards for Federal Services, Handbook H28.
4. THREAD LENGTH: Minimum thread length shall be twice the diameter plus 1/4 inch. The tolerance shall be plus 1/16 inch or 2-1/2 threads, whichever is greater. On screws that are too short for minimum thread lengths, the distance from the bearing surface of the head to the first complete thread shall not exceed the length of 2-1/2 threads for sizes up to and including 1 inch and 1-1/2 threads for sizes larger than 1 inch.
5. DIMENSIONS: All dimensions are in inches, unless otherwise specified.
6. HEAD MARKING: Heads shall be marked in accordance with MIL-HDBK-131. Raised markings are preferred, stampings are acceptable.
7. PART NUMBER: The MS part number consists of the MS number, plus the dash number.
Example: MS90725-1.
8. Based on minimum ultimate tensile strength of 120,000 p.s.i. for diameters thru 1 inch; 105,000 p.s.i. for 1-1/8 inch thru 1-1/2 inch diameters; 90,000 p.s.i. for diameters over 1-1/2 inches. Tensile strengths are calculated by the stress areas indicated in Screw-Thread Standards for Federal Services, Handbook H28.
9. Referenced documents shall be of the issue in effect on date of invitations for bid.
10. For design feature purposes, this standard takes precedence over procurement documents referenced herein.
11. Supersedes: MS15289, MS15291, MS15293, MS15295 in part, MS15297 and MS15299; (BCA12, 2.1, 3, 3.1, 3.2, 4.1, 4.2) in part; BGV12, 2.1, 4, 4.1, 4.2, 4.3, 4.8, 4.9, 10; (BCV12, 2.1, 2.2, 2.9, 10.2, 10.3) in part; BQL12, 1 in part, 4QL12, 1; 9WR12, 2.1, 2.2, 3, 3.1, 4, 4.1, 8, 8.1, 9, 9.1, 10, 10.1.

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

P.A. 6C Other Case SH 92	TITLE SCREW, CAP, HEXAGON HEAD (FINISHED HEXAGON BOLT), STEEL, GRADE 5, CADMIUM PLATED, UNC-2A	MILITARY STANDARD MS 90725
PROCUREMENT SPECIFICATION FF-3-d5	SUPERSEDES: See note 11	SHEET 2 OF

DD FORM 672-1

APPROVED 26 APR 63 REVISED (A) 1 AUG 67 (B) 14 OCT 68 (C) 1 MAY 1969 (D) FOR CHANGES SEE SHEET 1.