



OPTIONAL DESIGN

TABLE 1

NOMINAL SIZE		1/4	5/16	3/8	7/16	1/2	9/16	5/8
B THREAD	UNF-2A	28	24	24	20	20	18	18
D BODY DIAMETER	MAX	.2500	.3125	.3750	.4375	.5000	.5625	.6250
	MIN	.2450	.3065	.3690	.4305	.4930	.5545	.6170
F WIDTH ACROSS FLATS	MAX	.4375	.5000	.5625	.6250	.7500	.8125	.9375
	MIN	.4280	.4890	.5510	.6120	.7360	.7980	.9220
C WIDTH ACROSS CORNERS	MAX	.505	.577	.650	.722	.866	.938	1.083
	MIN	.488	.557	.628	.698	.840	.910	1.051
H HEAD HEIGHT	MAX	.163	.211	.243	.291	.323	.371	.403
	MIN	.150	.195	.226	.272	.302	.348	.378
R RADIUS	MAX	.025	.025	.025	.025	.025	.045	.045
	MIN	.015	.015	.015	.015	.015	.020	.020
* MIN TENSILE STRENGTH - LBS		4,350	6,950	10,500	14,200	19,200	24,400	30,700

L LENGTH	TOLERANCE	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.
.375	+0 -.031	1	27	53				
.438		2	28	54				
.500		3	29	55	79	104		
.562		4	30	56	81	105	130	
.625		5	31	57	82	106	131	155
.750		6	32	58	83	107	132	156
.875		7	33	59	84	108	133	157
1.000		8	34	60	85	109	134	158
1.125	+0 -.062	9	35	61	86	110	135	159
1.250		10	36	62	87	111	136	160
1.375		11	37	63	88	112	137	161
1.500		12	38	64	89	113	138	162
1.750		13	39	65	90	114	139	163
2.000		14	40	66	91	115	140	164
2.250		15	41	67	92	116	141	165
2.500	16	42	68	93	117	142	166	
2.750	17	43	69	94	118	143	167	
3.000	18	44	70	95	119	144	168	
3.250	19	45	71	96	120	145	169	
3.500	20	46	72	97	121	146	170	
3.750	21	47	73	98	122	147	171	
4.000	22	48	74	99	123	148	172	
4.250	23	49	75	100	124	149	173	
4.500	24	50	76	101	125	150	174	
4.750	25	51	77	102	126	151	175	
5.000	26	52	78	103	127	152	176	
5.500					128	153	177	
6.000					129	154	178	

NOTE: For notes and additional sizes see sheet 2.

**CROSS REFERENCE OF PART NUMBERS**

The screws covered by dash numbers given in MSJ5290, MSJ5292, MSJ5294, MSJ5296, MSJ5298 and MSJ5300 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.

For changes see sheet 2.

P.A. WC Other Cont. SH 82	TITLE	MILITARY STANDARD
	SCREW, CAP, HEXAGON HEAD (FINISHED HEXAGON BOLT), STEEL, GRADE 5, CADMIUM PLATED, UNF-2A	MS90726
PROCUREMENT SPECIFICATION FF-S-85	SUPERSEDES: See note 11	SHEET 1 OF 2

REVISER AV, IS, AT, MI, MU, NSA, OS, BS  
 SER ME, CL, MC, YB, AS

This military standard is mandatory 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.

APPROVED 30 APR 63 REVISED 14 OCT 68 1 MAY 1969

REVISION: AV, IS, AT, MI, MU, NSA, OS, BS  
LSER, ME, CL, MC, YD, AS

			TABLE II					PRO SUP CLASS 5305	
NOMINAL SIZE			3/4	7/8	1	1-1/8	1-1/4	1-3/8	1-1/2
B THREAD UNF-2A			16	14	12	12	12	12	12
D BODY DIAMETER	MAX		.7500	.8750	1.0000	1.1250	1.2500	1.3750	1.5000
	MIN		.7410	.8660	.9900	1.1140	1.2390	1.3630	1.4880
F WIDTH ACROSS FLATS	MAX		1.1250	1.3125	1.5000	1.6875	1.8750	2.0625	2.2500
	MIN		1.1000	1.2850	1.4690	1.6710	1.8120	1.9940	2.1750
G WIDTH ACROSS CORNERS	MAX		1.294	1.516	1.732	1.949	2.165	2.382	2.598
	MIN		1.254	1.465	1.675	1.859	2.066	2.273	2.480
H HEAD HEIGHT	MAX		.481	.561	.627	.718	.813	.878	.974
	MIN		.455	.531	.591	.658	.749	.810	.902
R RADIUS	MAX		.045	.065	.095	.095	.095	.095	.095
	MIN		.020	.040	.060	.060	.060	.060	.060
* MIN TENSILE STRENGTH - LBS			44,800	61,100	79,600	89,900	112,700	138,100	166,000

L LENGTH	TOLERANCE		DASH NO	DASH NO	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.
	SIZE 3/4	SIZE 7/8 AND OVER							
.750			179						
.875	+0	+0	180	202					
1.000	-.031	-.062	181	203	224				
1.125			182	204	225	245			
1.250			183	205	226	246	265		
1.375	+0	+0	184	206	227	247	266	284	
1.500	-.062	-.125	185	207	228	248	267	285	302
1.750			186	208	229	249	268	286	303
2.000			187	209	230	250	269	287	304
2.250			188	210	231	251	270	288	305
2.500			189	211	232	252	271	289	306
2.750			190	212	233	253	272	290	307
3.000			191	213	234	254	273	291	308
3.250			192	214	235	255	274	292	309
3.500	+0	+0	193	215	236	256	275	293	310
3.750	-.094	-.188	194	216	237	257	276	294	311
4.000			195	217	238	258	277	295	312
4.250			196	218	239	259	278	296	313
4.500			197	219	240	260	279	297	314
4.750			198	220	241	261	280	298	315
5.000			199	221	242	262	281	299	316
5.500			200	222	243	263	282	300	317
6.000			201	223	244	264	283	301	318

**NOTES:**

- MATERIAL:** Medium carbon steel, Grade 5, in accordance with procurement specification.
- PROTECTIVE COATING:** Cadmium plating in accordance with procurement specification.
- THREADS:** The threads shall be in accordance with Screw-Thread Standards for Federal Services, Handbook H28.
- 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 3-1/2 threads for sizes larger than 1 inch.
- DIMENSIONS:** All dimensions are in inches, unless otherwise specified.
- HEAD MARKING:** Heads shall be marked in accordance with MIL-HDBK-131. Raised markings are preferred, stampings are acceptable.
- PART NUMBER:** The MS part number consists of the MS number, plus the dash number.  
Example: MS90726-1.
- Based on minimum ultimate tensile strength of 120,000 p.s.i. for diameters thru 1 inch and 105,000 p.s.i. for 1-1/8 thru 1-1/2 inch diameters. Tensile strengths are calculated by the stress areas indicated in Screw-Thread Standards for Federal Services, Handbook H28.
- Referenced documents shall be of the issue in effect on date of invitations for bid.
- For design feature purposes, this standard takes precedence over procurement documents referenced herein.
- Supersedes: MS35290, MS35292, MS35294, MS35296, MS35298 and MS35300. (BCB15, 5.1, 6, 6.1) in part; BCY12.12, 10.1; (BCV12.13, 2.14, 2.15, 2.20, 2.21, 2.24, 4.10, 4.11, 4.12, 4.13, 4.18, 4.19, 10.4) in part; BQLX1.2 in part; BUBX5, 5.1, 5.2, 6, 6.1, 6.2, 7, 7.1, 11, 11.1, 12, 12.1, 13, 13.1.

P.A. 5C Other Code 5H 62	TITLE SCREW, CAP, HEXAGON HEAD (FINISHED HEXAGON BOLT), STEEL, GRADE 5, CADMIUM PLATED, UNF-2A	MILITARY STANDARD <b>MS 90726</b>
PROCUREMENT SPECIFICATION FF-S-85	SUPERSEDES See note 11	SHEET 2 OF

This military standard is mandatory 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.

APPROVED 30 APR 63 REVISED 14 OCT 68 FOR CHANGES SEE SHEET 2