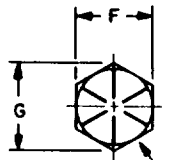
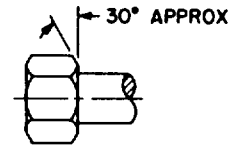
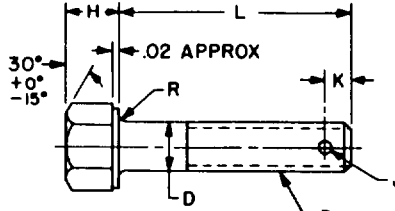


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SEE NOTE 6



OPTIONAL DESIGN

REVIEWER: AT, AV, IS, NSA, OS, 85  
USER: AS, CL, MC, ME, YD

NOMINAL SIZE		1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
B THREAD	UNC-2A	20	18	16	14	13	11	10	9	8
D BODY DIAMETER	MAX MIN	.2500 .2450	.3125 .3065	.3750 .3690	.4375 .4305	.5000 .4930	.6250 .6170	.7500 .7410	.8750 .8660	1.0000 .9900
F WIDTH ACROSS FLATS	MAX MIN	.4375 .4280	.5000 .4890	.5625 .5510	.6250 .6120	.7500 .7360	.9375 .9220	1.1250 1.1000	1.3125 1.2850	1.5000 1.4690
G WIDTH ACROSS CORNERS	MAX MIN	.505 .488	.577 .557	.650 .628	.722 .698	.866 .840	1.083 1.051	1.299 1.254	1.516 1.465	1.732 1.675
H HEAD HEIGHT	MAX MIN	.163 .150	.211 .195	.243 .226	.291 .272	.323 .302	.403 .378	.483 .455	.563 .531	.627 .591
J HOLE DIAMETER	+ .006 - .002	.076	.076	.107	.107	.107	.140	.140	.140	.140
K	± .010	.109	.125	.156	.156	.172	.188	.219	.250	.250
R RADIUS	MAX MIN	.025 .015	.025 .015	.025 .015	.025 .015	.025 .015	.045 .020	.045 .020	.065 .040	.095 .060
MIN TENSILE STRENGTH - LBS (B)		4,750	7,850	11,600	15,900	21,300	33,900	50,100	69,300	90,900

L LENGTH	TOLERANCE		DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.
	SIZE 3/4 AND UNDER	SIZE 7/8 AND OVER								
.375			1	27						
.438			2	28						
.500	+0		3	29	55					
.562	-.031	---	4	30	56					
.625			5	31	57					
.750			6	32	58	84	110	133		
.875			7	33	59	85	111	134		
1.000			8	34	60	86	112	135	157	
1.250	+0		9	35	61	87	113	136	158	206
1.500		+0	10	36	62	88	114	137	159	207
1.750	-.062	-.125	11	37	63	89	115	138	160	208
2.000			12	38	64	90	116	139	161	209
2.250			13	39	65	91	117	140	162	210
2.500			14	40	66	92	118	141	163	211
2.750			15	41	67	93	119	142	164	212
3.000			16	42	68	94	120	143	165	213
3.250			17	43	69	95	121	144	166	214
3.500			18	44	70	96	122	145	167	215
3.750	+0	+0	19	45	71	97	123	146	168	216
4.000	-.094	-.188	20	46	72	98	124	147	169	217
4.250			21	47	73	99	125	148	170	218
4.500			22	48	74	100	126	149	171	219
4.750			23	49	75	101	127	150	172	220
5.000			24	50	76	102	128	151	173	221
5.500							129	152	174	222
6.000							130	153	175	223

NOTE: For notes see sheet 2.

(B) For changes see sheets 1 and 2.

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.

P.A. WC Other Cost SH 82	TITLE SCREW, CAP, HEXAGON HEAD (FINISHED HEXAGON BOLT), SHANK DRILLED FOR COTTER PIN, ALLOY STEEL, GRADE 8, PHOSPHATE COATED, UNC-2A	MILITARY STANDARD MS51107
PROCUREMENT SPECIFICATION FF-S-85	SUPERSEDES:	SHEET 1 OF 2

DD FORM 672-1 (Coordinated)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

APPROVED 16 JUL 1958 REVISED (A) 14 OCT 1968 (B) 1 MAY 1969

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## NOTES:

1. **MATERIAL:** Alloy steel, Grade 8, in accordance with procurement specification. Minimum ultimate tensile strength: 150,000 p.s.i.
2. **PROTECTIVE COATING:** Phosphate coated 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 3/16 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.
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: MS51107-1.
8. Referenced documents shall be of the issue in effect on date of invitations for bid.
9. For design feature purposes, this standard takes precedence over procurement documents referenced herein.

REVIEWER: AT, AV, IS, NSA, OS, 85  
USER: AS, CL, MC, ME, YD

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