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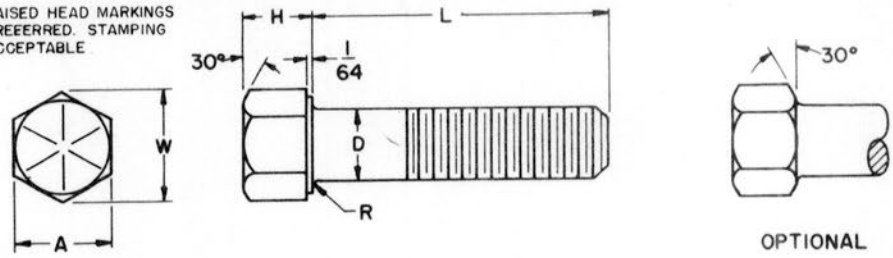
NOTE: RAISED HEAD MARKINGS PREFERRED. STAMPING ACCEPTABLE



NOMINAL SIZE			1/4	5/16	3/8	7/16	1/2	9/16	5/8
THREADS PER INCH			20UNC	18UNC	16UNC	14UNC	13UNC	12UNC	11UNC
BODY DIAMETER	D	Max	.2500	.3125	.3750	.4375	.5000	.5625	.6250
		Min	.2450	.3065	.3690	.4305	.4930	.5545	.6170
WIDTH ACROSS FLATS	A	Max	.4375	.5000	.5625	.6250	.7500	.8125	.9375
		Min	.4280	.4890	.5510	.6120	.7360	.7980	.9220
WIDTH ACROSS CORNERS	W	Max	.5050	.5770	.6500	.7220	.8660	.9380	1.0830
		Min	.4880	.5570	.6280	.6980	.8400	.9100	1.0510
HEAD HEIGHT	H	Max	.1630	.2110	.2430	.2910	.3230	.3710	.4030
		Min	.1500	.1950	.2260	.2720	.3020	.3480	.3780
RADIUS	R	Max	.023	.023	.023	.023	.023	.041	.041
		Min	.009	.009	.009	.009	.009	.021	.021
LENGTH	L	Tolerance	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number
3/8		+0 -1/32	1	27	53				
7/16			2	28	54	79			
1/2			3	29	55	80	104		
9/16			4	30	56	81	105	130	
5/8			5	31	57	82	106	131	155
3/4			6	32	58	83	107	132	156
7/8			7	33	59	84	108	133	157
1			8	34	60	85	109	134	158
1-1/8		+0 -1/16	9	35	61	86	110	135	159
1-1/4			10	36	62	87	111	136	160
1-3/8			11	37	63	88	112	137	161
1-1/2			12	38	64	89	113	138	162
1-3/4			13	39	65	90	114	139	163
2			14	40	66	91	115	140	164
2-1/4		+0 -3/32	15	41	67	92	116	141	165
2-1/2			16	42	68	93	117	142	166
2-3/4			17	43	69	94	118	143	167
3			18	44	70	95	119	144	168
3-1/4			19	45	71	96	120	145	169
3-1/2			20	46	72	97	121	146	170
3-3/4			21	47	73	98	122	147	171
4			22	48	74	99	123	148	172
4-1/4			23	49	75	100	124	149	173
4-1/2			24	50	76	101	125	150	174
4-3/4			25	51	77	102	126	151	175
5			26	52	78	103	127	152	176
5-1/2							128	153	177
6							129	154	178

Ⓐ CANCELLED
SEE SHEET 2

MATERIAL: Alloy Steel, Grade 8 of procurement specification. Minimum tensile strengths: 150,000 psi for diameters through 1-1/2"; 125,000 psi for diameters over 1-1/2".

FINISH: Plain (untreated).

THREADS: The threads shall be in accordance with Screw-Thread Standards for Federal Services Handbook H-28.

MINIMUM THREAD LENGTH: Shall be twice the diameter plus 1/4" for lengths up to and including 6". The tolerance shall be plus 3/16" or 2-1/2 threads, whichever is greater. On products 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" and 3-1/2 threads for sizes larger than 1".

NOTES:
(1) Referenced documents of issue in effect on date of invitation for bids shall apply.
(2) In case of conflict with any referenced document, this standard will govern.
(3) The MS part number consists of the MS sheet number, plus the dash number. Example: MS 35301-1.
(4) All dimensions in inches.

Ⓐ For Changes see Sheets 1, 2 and 3.

APPROVED MARCH 4, 1954 REVISED Ⓐ 7 MAY 63

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P.A.	WC	TITLE	MILITARY STANDARD
Other Cust	SHIPS	SCREW, CAP, HEXAGON HEAD (FINISHED HEXAGON BOLT), ALLOY STEEL, PLAIN FINISH, UNC-2 A	MS 35301
PROCUREMENT SPECIFICATION FF-S-85		SUPERSEDES:	SHEET 1 OF 3

DD FORM 1 SEP 57 672-1 (Coordinated)

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NOMINAL SIZE			3/4	7/8	1	1-1/8	1-1/4	1-3/8	1-1/2
THREADS PER INCH			10UNC	9UNC	8UNC	7UNC	7UNC	6UNC	6UNC
BODY DIAMETER	D	Max	.7500	.8750	1.0000	1.1250	1.2500	1.3750	1.5000
		Min	.7410	.8660	0.9900	1.1140	1.2390	1.3630	1.4880
WIDTH ACROSS FLATS	A	Max	1.1250	1.3125	1.5000	1.6875	1.8750	2.0625	2.2500
		Min	1.1000	1.2850	1.4690	1.6310	1.8120	1.9940	2.1750
WIDTH ACROSS CORNERS	W	Max	1.2990	1.5160	1.7320	1.9490	2.1650	2.3820	2.5980
		Min	1.2540	1.4650	1.6750	1.8590	2.0660	2.2730	2.4800
HEAD HEIGHT	H	Max	.4830	.5630	.6270	.7180	.8130	.8780	.9740
		Min	.4550	.5310	.5910	.6580	.7490	.8100	.9020
RADIUS	R	Max	.041	.062	.093	.093	.093	.093	.093
		Min	.021	.041	.062	.062	.062	.062	.062

LENGTH L	TOLERANCE Size 3/4 and under	TOLERANCE Size 7/8 and over	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number
3/4	+0	+0	179			Ⓐ CANCELLED			
7/8	-1/32	-1/16	180	202		SEE NOTE			
1			181	203	224				
1-1/8			182	204	225	245			
1-1/4			183	205	226	246	265		
1-3/8	+0	+0	184	206	227	247	266	284	
	-1/16	-1/8							
1-1/2			185	207	228	248	267	285	302
1-3/4			186	208	229	249	268	286	303
2			187	209	230	250	269	287	304
2-1/4			188	210	231	251	270	288	305
2-1/2			189	211	232	252	271	289	306
2-3/4			190	212	233	253	272	290	307
3			191	213	234	254	273	291	308
3-1/4			192	214	235	255	274	292	309
3-1/2			193	215	236	256	275	293	310
3-3/4	+0	+0	194	216	237	257	276	294	311
4	-3/32	-3/16	195	217	238	258	277	295	312
4-1/4			196	218	239	259	278	296	313
4-1/2			197	219	240	260	279	297	314
4-3/4			198	220	241	261	280	298	315
5			199	221	242	262	281	299	316
5-1/2			200	222	243	263	282	300	317
6			201	223	244	264	283	301	318

NOTE: For illustration, material, finish and other pertinent data, see sheet 1.

Ⓐ CANCELLED AFTER 7 May 1963. USE MS90728. INTERCHANGEABILITY RELATIONSHIP - MS90728 can replace the cancelled screws of the same size. The cancelled MS 35301 cannot always replace MS90728 and should be used until existing stock is depleted. Then use only the superseding MS screws of the same size for design and replacement.

APPROVED MARCH 4, 1954 REVISED Ⓐ FOR CHANGES SEE SHEETS 1, 2 AND 3

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Other Cust SHIPS	SCREW, CAP, HEXAGON HEAD (FINISHED HEXAGON BOLT), ALLOY STEEL, PLAIN FINISH, UNC-2A	MS 35301
PROCUREMENT SPECIFICATION FF-S-85	SUPERSEDES:	SHEET 2 OF

DD FORM 1 SEP 57 672-1 (Coordinated)

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NOMINAL SIZE			1-3/4	2	2-1/4	2-1/2			
THREADS PER INCH			5UNC	4-1/2UNC	4-1/2UNC	4UNC			
BODY DIAMETER	D	Max	1.7500	2.0000	2.2500	2.5000			
		Min	1.7380	1.9880	2.2380	2.4880			
WIDTH ACROSS FLATS	A	Max	2.6250	3.0000	3.3750	3.7500			
		Min	2.5380	2.9000	3.2620	3.6250			
WIDTH ACROSS CORNERS	W	Max	3.0310	3.4640	3.8970	4.3300			
		Min	2.8930	3.3060	3.7190	4.1330			
HEAD HEIGHT	H	Max	1.1340	1.2630	1.4230	1.5830			
		Min	1.0540	1.1750	1.3270	1.4790			
RADIUS	R	Max	.093	.093	.093	.093			
		Min	.062	.062	.062	.062			
LENGTH	L	Tolerance	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number
1-3/4		+0 -1/8	319						
2			320						
2-1/4			321	335					
2-1/2			322	336					
2-3/4			323	337	349	361			
3			324	338	350	362			
3-1/4			325	339	351	363			
3-1/2		+0 -3/16	326	340	352	364			
3-3/4			327	341	353	365			
4			328	342	354	366			
4-1/4			329	343	355	367			
4-1/2			330	344	356	368			
4-3/4			331	345	357	369			
5			332	346	358	370			
5-1/2			333	347	359	371			
6			334	348	360	372			

Ⓐ CANCELLED
SEE SHEET 2

NOTE: For illustration, material, finish and other pertinent data, see sheet 1.

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PROCUREMENT SPECIFICATION FF-S-85	SUPERSEDES:	SHEET 3 OF

DD FORM 1 SEP 57 672-1 (Coordinated)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.