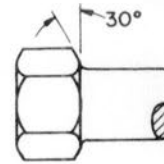
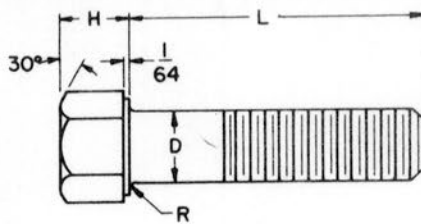
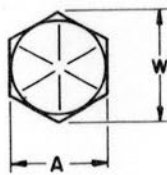


FED. SUP CLASS
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NOTE: RAISED HEAD MARKINGS
PREFERRED. STAMPING
ACCEPTABLE



OPTIONAL

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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 Min .2450	.3125 .3065	.3750 .3690	.4375 .4305	.5000 .4930	.5625 .5545	.6250 .6170
WIDTH ACROSS FLATS	A	{	Max .4375 Min .4280	.5000 .4890	.5625 .5510	.6250 .6120	.7500 .7360	.8125 .7980	.9375 .9220
WIDTH ACROSS CORNERS	W	{	Max .5050 Min .4880	.5770 .5570	.6500 .6290	.7220 .6980	.8660 .8400	.9380 .9100	1.0830 1.0510
HEAD HEIGHT	H	{	Max .1630 Min .1500	.2110 .1950	.2430 .2260	.2910 .2720	.3230 .3020	.3710 .3480	.4030 .3790
RADIUS	R	{	Max .023 Min .009	.023 .009	.023 .009	.023 .009	.023 .009	.041 .021	.041 .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	79			
7/16			2	28	54	80	104		
1/2			3	29	55	81	105	130	
9/16			4	30	56	82	106	131	155
5/8			5	31	57	83	107	132	156
3/4			6	32	58				
7/8	+0 -1/16		7	33	59	84	108	133	157
1			8	34	60	85	109	134	158
1-1/8			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	+0 -3/32		13	39	65	90	114	139	163
2			14	40	66	91	115	140	164
2-1/4			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.

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

APPROVED MARCH 4, 1954 REVISED Ⓐ 7 MAY 63

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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 Min .7410	.8750 .8660	1.0000 0.9900	1.1250 1.1140	1.2500 1.2390	1.3750 1.3630	1.5000 1.4880	
WIDTH ACROSS FLATS	A	Max 1.1250 Min 1.1000	1.3125 1.2850	1.5000 1.4690	1.6875 1.6310	1.8750 1.8120	2.0625 1.9940	2.2500 2.1750	
WIDTH ACROSS CORNERS	W	Max 1.2990 Min 1.2540	1.5110 1.4650	1.7320 1.6750	1.9490 1.8590	2.1650 2.0660	2.3820 2.2730	2.5980 2.4800	
HEAD HEIGHT	H	Max .4830 Min .4650	.5630 .5310	.6270 .5910	.7180 .6530	.8130 .7490	.8780 .8100	.9740 .9020	
RADIUS	R	Max .041 Min .021	.062 .041	.093 .062	.093 .062	.093 .062	.093 .062	.093 .062	
LENGTH	L	TOLERANCE		Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number
		Size 3/4 and under	Size 7/8 and over						
3/4		+0	+0	179					
7/8		-1/32	-1/16	180	202				
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
1-3/4				186	208	229	249	268	286
2				187	209	230	250	269	287
2-1/4				188	210	231	251	270	288
2-1/2				189	211	232	252	271	289
2-3/4				190	212	233	253	272	290
3				191	213	234	254	273	291
3-1/4				192	214	235	255	274	292
3-1/2				193	215	236	256	275	293
3-3/4		+0	+0	194	216	237	257	276	294
4		-3/32	-3/16	195	217	238	258	277	295
4-1/4				196	218	239	259	278	296
4-1/2				197	219	240	260	279	297
4-3/4				198	220	241	261	280	298
5				199	221	242	262	281	299
5-1/2				200	222	243	263	282	300
6				201	223	244	264	283	301

CANCELLED
SEE NOTE

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

(A) 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 (A) FOR CHANGES SEE SHEETS 1, 2 AND 3

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

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

FED. SUP CLASS
5305

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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 Min	1.7500 1.7380	2.0000 1.9880	2.2500 2.2380	2.5000 2.4880							
WIDTH ACROSS FLATS	A	{Max Min	2.6250 2.5380	3.0000 2.9000	3.3750 3.2620	3.7500 3.6250							
WIDTH ACROSS CORNERS	W	{Max Min	3.0310 2.8930	3.4640 3.3060	3.8970 3.7190	4.3300 4.1330							
HEAD HEIGHT	H	{Max Min	1.1340 1.0540	1.2630 1.1750	1.4230 1.3270	1.5330 1.4790							
RADIUS	R	{Max Min	.093 .062	.093 .062	.093 .062	.093 .062							
LENGTH	L	Tolerance	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number				
					Ⓐ CANCELLED SEE SHEET 2								
1-3/4	+0	319											
2	-1/8	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	326	340	352						364			
3-3/4	-3/16	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								

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

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

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

P.A. WC Other Cust SHIPS	TITLE SCREW, CAP, HEXAGON HEAD (FINISHED HEXAGON BOLT), ALLOY STEEL, PLAIN FINISH, UNC-2A	MILITARY STANDARD MS 35301
PROCUREMENT SPECIFICATION FF-3-35	SUPERSEDES:	SHEET 3 OF