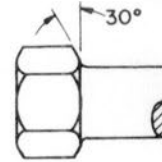
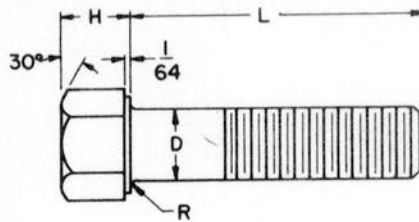
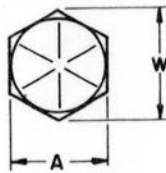


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NOTE: RAISED HEAD MARKINGS
PREFERRED. STAMPING
ACCEPTABLE



OPTIONAL

FED. SUP CLASS
5305

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	{ Max .3125 Min .3065	{ Max .3750 Min .3690	{ Max .4375 Min .4305	{ Max .5000 Min .4930	{ Max .5625 Min .5545	{ Max .6250 Min .6170
WIDTH ACROSS FLATS	A	{ Max .4375 Min .4280	{ Max .5000 Min .4890	{ Max .5625 Min .5510	{ Max .6250 Min .6120	{ Max .7500 Min .7360	{ Max .8125 Min .7980	{ Max .9375 Min .9220
WIDTH ACROSS CORNERS	W	{ Max .5050 Min .4880	{ Max .5770 Min .5570	{ Max .6500 Min .6290	{ Max .7220 Min .6980	{ Max .8660 Min .8400	{ Max .9380 Min .9100	{ Max 1.0830 Min 1.0510
HEAD HEIGHT	H	{ Max .1630 Min .1500	{ Max .2110 Min .1950	{ Max .2430 Min .2260	{ Max .2910 Min .2720	{ Max .3230 Min .3020	{ Max .3710 Min .3480	{ Max .4030 Min .3790
RADIUS	R	{ Max .023 Min .009	{ Max .023 Min .009	{ Max .023 Min .009	{ Max .023 Min .009	{ Max .023 Min .009	{ Max .041 Min .021	{ Max .041 Min .021
LENGTH	L	Tolerance	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number
3/8			1	27	53			
7/16			2	28	54			
1/2			3	29	55			
9/16		+0	4	30	56	104	130	155
5/8		-1/32	5	31	57	81	105	131
3/4			6	32	58	82	106	132
						83	107	133
7/8			7	33	59	84	108	134
1-1/8			8	34	60	85	109	135
1-1/4			9	35	61	86	110	136
1-3/8		+0	10	36	62	87	111	137
1-1/2		-1/16	11	37	63	88	112	138
			12	38	64	89	113	139
1-3/4			13	39	65	90	114	140
2			14	40	66	91	115	141
2-1/4			15	41	67	92	116	142
2-1/2			16	42	68	93	117	143
2-3/4			17	43	69	94	118	144
3			18	44	70	95	119	145
3-1/4			19	45	71	96	120	146
3-1/2		+0	20	46	72	97	121	147
3-3/4		-3/32	21	47	73	98	122	148
4			22	48	74	99	123	149
4-1/4			23	49	75	100	124	150
4-1/2			24	50	76	101	125	151
								152
4-3/4			25	51	77	102	126	153
5			26	52	78	103	127	154
5-1/2							128	155
6							129	156

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

FED. SUP CLASS
5305

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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	1.2870	1.4690	1.6310	1.8120	1.9940	2.1750
WIDTH ACROSS CORNERS	W	Max	1.2990	1.5110	1.7320	1.9490	2.1650	2.3820	2.5980
		Min	1.2540	1.4650	1.6750	1.8590	2.0600	2.2730	2.4800
HEAD HEIGHT	H	Max	.4830	.5630	.6270	.7180	.8130	.8780	.9740
		Min	.4550	.5310	.5910	.6530	.7490	.8100	.9020
RADIUS	R	Max	.041	.062	.093	.093	.093	.093	.093
		Min	.021	.041	.062	.062	.062	.062	.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				194	216	237	257	276	294
4		+0	+0	195	217	238	258	277	295
4-1/4		-3/32	-3/16	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

(A) 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

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

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.

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								FED. SUP CLASS 5305	
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	1.5830 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
1-3/4 2		+0 -1/8	319 320						
2-1/4 2-1/2 2-3/4 3			321 322 323 324	335 336 337 338	349 350	361 362			
3-1/4 3-1/2 3-3/4 4 4-1/4 4-1/2		+0 -3/16	325 326 327 328 329 330	339 340 341 342 343 344	351 352 353 354 355 356	363 364 365 366 367 368			
4-3/4 5 5-1/2 6			331 332 333 334	345 346 347 348	357 358 359 360	369 370 371 372			
<p>NOTE: For illustration, material, finish and other pertinent data, see sheet 1.</p>									
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 3 OF			

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