

NOTICE.—When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility, nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

				FED. SUP CLASS 5305													
				OPTIONAL													
NOMINAL SIZE				1/4		5/16		3/8		7/16		1/2		9/16		5/8	
THREADS PER INCH				28UNF		24UNF		24UNF		20UNF		20UNF		18UNF		18UNF	
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	Max .6875 Min .6800	Max .7500 Min .7360	Max .8125 Min .7980	Max .8750 Min .8610	Max .9375 Min .9220	Max 1.0000 Min .9860	Max 1.0625 Min 1.0480
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 .8750 Min .8610	Max .9375 Min .9220	Max 1.0000 Min .9860	Max 1.0625 Min 1.0480	Max 1.1250 Min 1.1110	Max 1.1875 Min 1.1730	Max 1.2500 Min 1.2360	Max 1.3125 Min 1.2980
WIDTH ACROSS CORNERS		W		Max .5050 Min .4880	Max .5770 Min .5570	Max .6500 Min .6280	Max .7220 Min .6980	Max .8660 Min .8400	Max .9380 Min .9100	Max 1.0330 Min 1.0010	Max 1.1330 Min 1.0910	Max 1.2330 Min 1.1810	Max 1.3330 Min 1.2810	Max 1.4330 Min 1.3810	Max 1.5330 Min 1.4810	Max 1.6330 Min 1.5810	Max 1.7330 Min 1.6810
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 .3780	Max .4350 Min .4080	Max .4670 Min .4380	Max .5000 Min .4690	Max .5320 Min .5000	Max .5640 Min .5300	Max .5960 Min .5600	Max .6280 Min .5900
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	Max .041 Min .021	Max .041 Min .021	Max .041 Min .021	Max .041 Min .021	Max .041 Min .021	Max .041 Min .021	Max .041 Min .021
LENGTH		L	Tolerance	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number	Dash Number
3/8				1	27	53											
7/16				2	28	54		79									
1/2				3	29	55		80		104							
9/16			+0	4	30	56		81		105		130					
5/8			-1/32	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				9	35	61		86		110		135		159			
1-1/4			+0	10	36	62		87		111		136		160			
1-3/8			-1/16	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				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			+0	19	45	71		96		120		145		169			
3-1/2			-3/32	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			
<b>Ⓐ CANCELLED</b> <b>SEE SHEET 2</b>																	
<b>MATERIAL:</b> Low Carbon Steel, Grade 2 of procurement specification. Minimum tensile strengths: 69,000 psi for diameters through 1/2"; 64,000 psi for diameters 9/16" through 3/4"; 55,000 psi for diameters over 3/4". <b>FINISH:</b> Phosphate, Specification MIL-C-16232, Type II. <b>THREADS:</b> The threads shall be in accordance with Screw-Thread Standards for Federal Services Handbook H-28. <b>MINIMUM THREAD LENGTH:</b> 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". <b>NOTES:</b> (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 35294-1. (4) All dimensions in inches.																	
<b>Ⓐ</b> For Changes see Sheets 1 and 2.																	
P.A.		WC		TITLE													
Other Cust		SHIPS ASD		SCREW, CAP, HEXAGON HEAD (FINISHED HEXAGON BOLT), LOW CARBON STEEL, PHOSPHATE FINISH, UNF-2A													
PROCUREMENT SPECIFICATION FF-S-85				SUPERSEDES:													
				MILITARY STANDARD <b>MS35294</b>													
				SHEET 1 OF 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.

FED. SUP CLASS  
5305

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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.

NOMINAL SIZE			3/4	7/8	1	1-1/8	1-1/4	1-3/8	1-1/2
THREADS PER INCH			16UNF	14UNF	12UNF	12UNF	12UNF	12UNF	12UNF
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		Dash Number	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 -1/32	+0 -1/16	179						
7/8			180						
1	+0 -1/16	+0 -1/8	181		224				
1-1/8			182	202	225	245			
1-1/4			183	203	226	246	265		
1-3/8			184	204	227	247	266	284	
1-1/2			185	205	228	248	267	285	302
1-3/4			186	206	229	249	268	286	303
2	+0 -3/32	+0 -3/16	187	207	230	250	269	287	304
2-1/4			188	208	231	251	270	288	305
2-1/2			189	209	232	252	271	289	306
2-3/4			190	210	233	253	272	290	307
3			191	211	234	254	273	291	308
3-1/4			192	212	235	255	274	292	309
3-1/2	+0 -3/32	+0 -3/16	193	213	236	256	275	293	310
3-3/4			194	214	237	257	276	294	311
4			195	215	238	258	277	295	312
4-1/4			196	216	239	259	278	296	313
4-1/2			197	217	240	260	279	297	314
4-3/4			198	218	241	261	280	298	315
5	+0 -3/32	+0 -3/16	199	219	242	262	281	299	316
5-1/2			200	220	243	263	282	300	317
6			201	221	244	264	283	301	318

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

Ⓐ CANCELLED AFTER 30 April 1963. USE MS90726. INTERCHANGEABILITY RELATIONSHIP - MS90726 can replace the cancelled screws of the same size. The cancelled MS 35294 cannot always replace MS90726 and should be used until existing stock is depleted. Then use only the superseding MS screws of the same size for design and replacement.

Ⓐ CANCELLED  
SEE NOTE

P.A.	WC	TITLE SCREW, CAP, HEXAGON HEAD (FINISHED HEXAGON BOLT), LOW CARBON STEEL, PHOSPHATE FINISH, UNF-2A	MILITARY STANDARD	
Other Cust	SHIPS ASD		MS35294	
PROCUREMENT SPECIFICATION FF-S-85		SUPERSEDES:	SHEET 2 OF	