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

Ⓐ CANCELLED
SEE SHEET 2

MATERIAL: 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".

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 35289-1.
(4) All dimensions in inches.

Ⓐ For Changes see Sheets 1, 2 and 3.

P.A.	WC	TITLE	MILITARY STANDARD
Other Cust	SHIPS ASD	SCREW, CAP, HEXAGON HEAD (FINISHED HEXAGON BOLT), LOW CARBON STEEL, PLAIN FINISH, UNC-2A	MS35289
PROCUREMENT SPECIFICATION FF-S-85	SUPERSEDES:	SHEET 1 OF 3	

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FED. SUP. CLASS 5305										
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	5UNC
BODY DIAMETER		D	{ Max Min	.7500 .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 Min	1.1250 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 Min	1.2990 1.2540	1.5160 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 Min	.4830 .4550	.5630 .5310	.6270 .5910	.7180 .6580	.8130 .7490	.8780 .8100	.9740 .9020
RADIUS		R	{ Max Min	.041 .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	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				181		224				
1-1/8				182		225	245			
1-1/4				183		226	246			
1-3/8		+0 -1/16	+0 -1/8	184		227	247	265	284	
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 -3/32	+0 -3/16	194	216	237	257	276	294	311
4				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
<p>NOTE: For illustration, material, finish and other pertinent data, see sheet 1.</p> <p>Ⓐ CANCELLED AFTER 26 April 1963. USE MS90725. INTERCHANGEABILITY RELATIONSHIP - MS90725 can replace the cancelled screws of the same size. The cancelled MS35289 cannot always replace MS90725 and should be used until existing stock is depleted. Then use only the superseding MS screws of the same size for design and replacement.</p> <p>Ⓐ CANCELLED SEE NOTE</p>										
P.A.		WC.	TITLE				MILITARY STANDARD			
Other Code		SKIPS ASB	SCREW, CAP, HEXAGON HEAD (FINISHED HEXAGON BOLT), LOW CARBON STEEL, PLAIN FINISH, UNC-2A				MS35289			
PROCUREMENT SPECIFICATION FF-3-85			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 1.7500 Min 1.7380	{Max 2.0000 Min 1.9880	{Max 2.2500 Min 2.2380	{Max 2.5000 Min 2.4880				
WIDTH ACROSS FLATS A	{Max 2.6250 Min 2.5380	{Max 3.0000 Min 2.9000	{Max 3.3750 Min 3.2620	{Max 3.7500 Min 3.6250				
WIDTH ACROSS CORNERS W	{Max 3.0310 Min 2.8930	{Max 3.4640 Min 3.3060	{Max 3.8970 Min 3.7190	{Max 4.3300 Min 4.1330				
HEAD HEIGHT H	{Max 1.1340 Min 1.0540	{Max 1.2630 Min 1.1750	{Max 1.4230 Min 1.3270	{Max 1.5830 Min 1.4790				
RADIUS R	{Max .093 Min .062	{Max .093 Min .062	{Max .093 Min .062	{Max .093 Min .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	+0 -3/16	325 326 327 328	339 340 341 342	351 352 353 354	363 364 365 366			
4-1/4 4-1/2		329 330	343 344	355 356	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			

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

Ⓐ CANCELLED
SEE SHEET 2

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

DD FORM 672-1 (Coordinated)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

APPROVED 4 MAR 54 REVISED Ⓐ FOR CHANGES SEE SHEETS 1, 2, AND 3.

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