

APPROVED 7 MAY 63  
REVISED (A) 14 OCT 68 (B) 1 MAY 69 (C) 22 OCT 70 (D) 21 JUNE 75 (E) 20 DEC 83 (F) 30 OCT 84

FED. SUP. CLASS  
5305

TABLE I. DASH NUMBERS AND DIMENSIONS.

NOMINAL SIZE		1 1.000	1-1/8 1.125	1-1/4 1.250	1-3/8 1.375	1-1/2 1.500	1-3/4 1.750	2 2.000	2-1/4 2.250	2-1/2 2.500
B THREADS PER INCH		BUNC-2A	7UNC-2A	7UNC-2A	6UNC-2A	6UNC-2A	5UNC-2A	4-1/2UNC-2A	4-1/2UNC-2A	4UNC-2A
Ø D BODY DIAMETER	MAX MIN	1.0000 .9900	1.1250 1.1140	1.2500 1.2390	1.3750 1.3630	1.5000 1.4880	1.7500 1.7380	2.0000 1.9880	2.2500 2.2380	2.5000 2.4880
P WIDTH ACROSS FLATS	MAX MIN	1.5000 1.4690	1.6875 1.6310	1.8750 1.8120	2.0625 1.9940	2.2500 2.1750	2.6250 2.5390	3.0000 2.9000	3.3750 3.2620	3.7500 3.6250
G WIDTH ACROSS CORNERS	MAX MIN	1.732 1.675	1.949 1.899	2.165 2.066	2.392 2.273	2.598 2.480	3.031 2.893	3.464 3.306	3.897 3.719	4.330 4.133
H HEAD HEIGHT	MAX MIN	.627 .591	.718 .658	.813 .749	.908 .810	.974 .902	1.134 1.054	1.243 1.174	1.423 1.327	1.584 1.479
R RADIUS	MAX MIN	.095 .060	.095 .060	.095 .060	.095 .060	.095 .060	.095 .060	.095 .060	.095 .060	.095 .060
1/ MIN TENSILE STRENGTH - LBS		90,900	114,400	145,400	173,200	210,900	227,900	299,750	344,700	479,850

  

1 LENGTH	TOLERANCE	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO	DASH NO
1.000	+0 -.062	224								
1.125		225	245							
1.250		226	246	265						
1.375	+0 -.125	227	247	266	284					
1.500		228	248	267	285	302				
1.750		229	249	268	286	303	319			
2.000		230	250	269	287	304	320			
2.250		231	251	270	288	305	321	335		
2.500		232	252	271	289	306	322	336		
2.750		233	253	272	290	307	323	337	349	361
3.000		234	254	273	291	308	324	338	350	362
3.250		235	255	274	292	309	325	339	351	363
3.500	+0 -.188	236	256	275	293	310	326	340	352	364
3.750		237	257	276	294	311	327	341	353	365
4.000		238	258	277	295	312	328	342	354	366
4.250		239	259	278	296	313	329	343	355	367
4.500		240	260	279	297	314	330	344	356	368
4.750		241	261	280	298	315	331	345	357	369
5.000		242	262	281	299	316	332	346	358	370
5.500		243	263	282	300	317	333	347	359	371
6.000		244	264	283	301	318	334	348	360	372

1/ SEE NOTE 2

## REQUIREMENTS:

1. MATERIAL: ALLOY STEEL, SAE GRADE 8 IN ACCORDANCE WITH PROCUREMENT SPECIFICATION.
2. PROTECTIVE COATING: CADMIUM PLATED IN ACCORDANCE WITH QQ-P-416, TYPE II, CLASS 3.
3. THREADS: THREADS SHALL BE IN ACCORDANCE WITH PROCUREMENT SPECIFICATION.
4. IDENTIFICATION MARKING: HEADS SHALL BE MARKED IN ACCORDANCE WITH PROCUREMENT SPECIFICATION.
5. SELF-LOCKING ELEMENT.
  - (a) THE SELF-LOCKING ELEMENT SHALL BE A PATCH TYPE OR LONGITUDINAL STRIP IN ACCORDANCE WITH MIL-F-18240.
  - (b) FOR "X" AND "Y" DIMENSIONS AND DESIGN AND USAGE LIMITATIONS, SEE MS15981.
  - (c) MAXIMUM RING GAGE DIAMETER THAT LOCKING REGION OF SCREW MUST PASS THRU FREELY OR WITH FINGER PRESSURE SHALL BE OF THE NOMINAL SIZE PLUS 0.010.
6. PART NUMBER: THE PART NUMBER SHALL CONSIST OF THE BASIC MS SHEET NUMBER PLUS THE DASH NUMBER TAKEN FROM TABLE I OR II AS APPLICABLE. FOR SCREWS WITH SELF-LOCKING ELEMENT ADD THE LETTER "L" AFTER THE DASH NUMBER.

EXAMPLE: MS90728-236

DASH NUMBER

BASIC MS SHEET NUMBER

MS90728-236 INDICATES: SCREW, CAP, HEXAGON HEAD, ALLOY STEEL, SAE GRADE 8.

CADMIUM PLATED, NOMINAL SIZE 1.000-BUNC-2A, LENGTH 3.500, NO SELF-LOCKING ELEMENT.

P. A. Other Code	AR 99	INTERNATIONAL INTEREST	TITLE SCREW, CAP, HEXAGON HEAD (FINISHED HEXAGON BOLT), ALLOY STEEL, GRADE 8, CADMIUM PLATED, PLAIN AND SELF LOCKING, UNC-2A	MILITARY STANDARD MS90728
PROCUREMENT SPECIFICATION ANSI B18.2.1-1981				PAGE 2 OF 3
SUPERSEDED BY MS35301, MS35303, MS35305, BCVX7 IN PART, BUBX14, 14.1, 15, 15.1, 16 AND 15.1				

DD FORM 672-1 (COORDINATED)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

5305-1588

USER ACTIVITIES  
ARMY-ME  
NAVY-MC, OS, YDREVIEWER ACTIVITIES  
ARMY-AT, AV, MI  
AIR FORCE-82  
NSA-NS  
DLA-ISThis military standard is approved for use by all Departments and Agencies of the Department of Defense.  
Selection for all new engineering and design applications and for repetitive use shall be made from this  
document when applicable.

APPROVED 7 MAY 63 REVISED FOR CHANGE SEE PA

FED. SUP CLASS  
5305

7. QUALITY ASSURANCE PROVISIONS: QUALITY ASSURANCE PROVISIONS SHALL BE IN ACCORDANCE WITH ANSI B18.18.1M-1982. THREAD INSPECTION METHOD ACCEPTABILITY SHALL BE IN ACCORDANCE WITH FED-STD-H28/20, SYSTEM 21 AND ANSI B18.18.1M-1982, INSPECTION LEVEL B.

8. PACKAGING: PACKAGING SHALL BE IN ACCORDANCE WITH ASTM D3951-82.

(F) 9. THREAD LENGTH: MINIMUM THREAD LENGTH SHALL BE TWICE THE DIAMETER PLUS .250 INCH. THE TOLERANCE SHALL BE PLUS .187 INCH OR 2-1/2 THREADS WHICHEVER IS GREATER. ON SCREWS 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 INCH AND 3-1/2 THREADS FOR SIZES LARGER THAN 1 INCH.

## NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. BASED ON MINIMUM ULTIMATE TENSILE STRENGTH OF 150,000 PSI FOR DIAMETERS THRU 1-1/2 INCHES AND 120,000 PSI FOR DIAMETERS OVER 1-1/2 INCHES. TENSILE STRENGTHS ARE CALCULATED BY THE STRESS AREAS INDICATED IN FED-STD-H28, APPENDIX A5, 3. STRENGTH FACTORS.
3. CROSS REFERENCE OF PART NUMBERS: THE SCREWS COVERED BY DASH NUMBERS GIVEN IN MS35301, MS35303 AND MS35305, ARE CANCELLED AFTER THE DATES INDICATED ON THE CANCELLED DOCUMENTS. USE DASH NUMBERS USED IN THIS STANDARD. THE CANCELLED SCREWS CANNOT ALWAYS REPLACE THE NEW SCREWS AND SHOULD BE USED UNTIL EXISTING STOCKS ARE DEPLETED. USE ONLY THE NEW SCREWS FOR DESIGN AND REPLACEMENT. DASH NUMBERS REPRESENTING OLD AND NEW SCREWS ARE IDENTICAL, MAKING IT UNNECESSARY TO PREPARE AN INTERCHANGEABILITY TABLE.
4. REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BIDS, OR REQUEST FOR PROPOSAL, EXCEPT THAT REFERENCED ADOPTED INDUSTRY DOCUMENTS SHALL GIVE THE DATE OF THE ISSUE ADOPTED.
5. FOR DESIGN FEATURE PURPOSES THIS STANDARD TAKES PRECEDENCE OVER PROCUREMENT DOCUMENTS REFERENCED HEREIN.

USER ACTIVITIES:  
ARMY-ME  
NAVY-MC,OS,YD

REVIEWER ACTIVITIES:  
ARMY-AT,AV,M1  
AIR FORCE-82  
NSA-NS  
DLA-IS

This military standard is approved for use by all Departments and Agencies of the Department of Defense. Selection for all new engineering and design applications and for repetitive use shall be made from this document when applicable.

P. A. Other Cost	AR 99	INTERNATIONAL INTEREST	TITLE SCREW, CAP, HEXAGON HEAD (FINISHED HEXAGON BOLT), ALLOY STEEL, GRADE 8, CADMIUM PLATED, PLAIN AND SELF LOCKING, UNC-2A	MILITARY STANDARD MS90728
PROCUREMENT SPECIFICATION ANSI B18.2.1-1981		SUPERSEDED BY MS35301, MS35303, MS35305, BCVX7 IN PART, BUBX14, 14.1, 15, 15.1, 16 AND 16.1		PAGE 3 OF 3

DD FORM 672-1 (COORDINATED)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

5305-1588

APPROVED 7 MAY 63 REVISED (F) FOR CHANGE SEE PAGE 3

1. The first line of the document is a header indicating the source of the document, which is a download from the website <http://www.everyspec.com>.

2. The second line of the document is a header indicating the source of the document, which is a download from the website <http://www.everyspec.com>.