

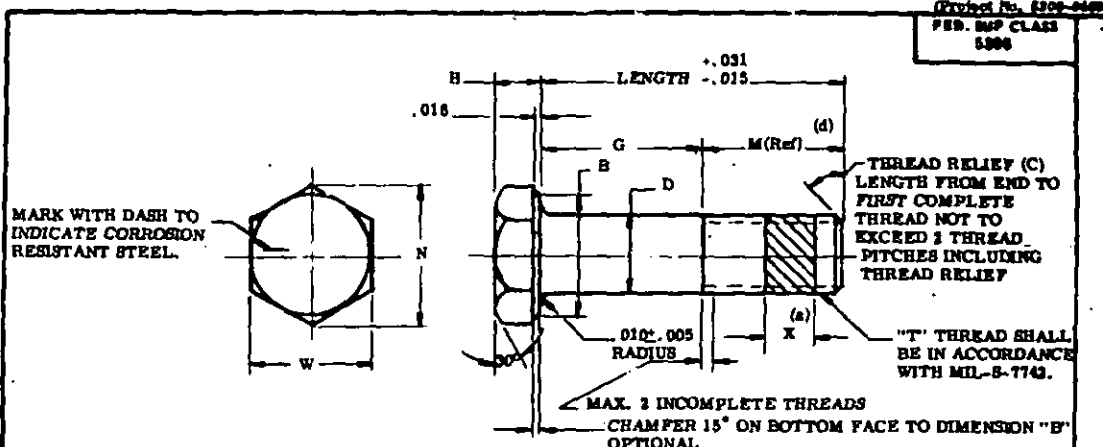
USER SYMBOLS:

REVIEWER SYMBOLS:

NAVY - AS
USAF - 11
ARMY - AV

*Review/audit information is correct as of the date of this document.
For future consideration of changes to this document, draft consideration
should be based on the information in the current 00155.

This military standard is mandatory for use by all Departments
& Agencies of the Department of Defense. Selection for all new
engineering and design applications and for reengineering and shell
be made from this document.



DASH NO.	"T" (b) THREAD UNF-3A	D DIA.		B DIA. (f)		H		M-Ref	N		W		DBL. SHEAR STRENGTH POUNDS	ULT TENSILE STRENGTH POUNDS (g)
		MAX.	MIN.	MIN.	MAX.	MIN.	MIN.		MAX.	MIN.				
-1	#6-32	.138	.135	.213	.108	.094	.312	.277	.251	.243	1,420	720		
-2	#8-32	.164	.161	.275	.118	.106	.437	.348	.313	.305	2,030	1,120		
-3	#10-32	.189	.186	.335	.141	.109	.469	.416	.377	.365	2,720	1,600		
-4	1/4-28	.249	.246	.398	.172	.140	.506	.488	.440	.428	4,700	2,910		
-5	5/16-24	.312	.309	.460	.204	.172	.531	.558	.502	.490	7,370	4,640		
-6	3/8-24	.374	.371	.523	.235	.203	.641	.630	.565	.553	10,600	7,020		
-7	7/16-20	.437	.433	.585	.266	.234	.656	.701	.627	.615	14,400	9,490		
-8	1/2-20	.499	.495	.710	.297	.265	.781	.843	.752	.740	18,800	12,790		
-9	9/16-18	.562	.558	.835	.328	.296	.906	.986	.877	.865	23,900	16,250		
-10	5/8-16	.624	.620	.898	.360	.328	.953	1,058	.940	.928	29,500	19,200		
-11	3/4-16	.749	.744	1,023	.422	.390	.969	1,200	1,066	1,053	42,400	28,000		
-14	7/8-14	.874	.869	1,210	.485	.453	1,250	1,413	1,253	1,240	57,700	38,200		
-16	1-12	.999	.993	1,398	.547	.515	1,375	1,628	1,441	1,428	75,400	49,700		
-18	1-1/8-12	1.124	1.118	1,585	.610	.578	1,500	1,841	1,628	1,615	94,400	64,200		
-20	1-1/4-12	1.249	1.243	1,772	.672	.640	1,687	2,054	1,815	1,802	116,500	80,500		

- (a) LOCATION OF EFFECTIVE LOCKING AREA X SHALL BE IN ACCORDANCE WITH MS15981.
 (b) THREADS SHALL BE FORMED BY ANY SINGLE ROLLING PROCESS AND IN ACCORDANCE WITH SPECIFICATION MIL-8-7742.
 (c) CHAMFER $45^\circ \pm 5^\circ$. CHAMFER TO EXTEND TO ROOT OF THREAD.
 (d) REFERENCE DIMENSIONS ARE FOR DESIGN PURPOSES ONLY AND ARE NOT AN INSPECTION OR MANUFACTURING REQUIREMENT.
 (e) TENSILE VALUES BASED ON 80 KSI ULTIMATE TENSILE STRENGTH UP TO AND INCLUDING 9/16" DIAMETER AND 75 KSI ULTIMATE TENSILE STRENGTH 5/8" DIAMETER AND LARGER. STRESS AREA = $3.1416 (E/2 - 3H/16)^2$. SEE HANDBOOK H-28.
 (f) THE DIAMETER OF THE WASHER FACE SHALL NOT EXCEED THE ACTUAL WIDTH ACROSS FLATS.
- MATERIAL: CORROSION RESISTING STEEL THAT WILL PROVIDE IN THE FINISHED BOLT THE STRENGTH AND PERMEABILITY SPECIFIED.
 TREATMENT: PASSIVATED (SEE PROCUREMENT SPECIFICATION).
 SURFACE TEXTURE: THE SURFACE OF THE SHANK, FILLET AND BEARING AREA SHALL NOT EXCEED 125 MICRO-INCHES. SURFACE TEXTURE SHALL BE IN ACCORDANCE WITH ASA B46.1 (1962) ANSL.
 LOCKING ELEMENT: IN ACCORDANCE WITH SPECIFICATION MIL-F-18240. LOCKING ELEMENT AREA MUST PASS THRU A RING GAGE EQUAL TO THE MAXIMUM MAJOR THREAD DIAMETER $\pm .003$ " FREELY OR WITH FINGER PRESSURE.
 MAGNETIC PERMEABILITY: THESE BOLTS HAVE A MAGNETIC PERMEABILITY OF 2.0 MAXIMUM (AIR = 1.0) FOR A FIELD OF $H = 300$ OERSTEDS USING MAGNETIC INDICATOR PER MIL-I-17214.
 DESIGN AND USAGE LIMITATIONS: SEE MS15981.
 EXAMPLE OF PART NUMBER: MS21095-4008 = 1/4-28 BOLT, .500" GRIP LENGTH.

FOR DESIGN FEATURE PURPOSES THIS STANDARD TAKES PRECEDENCE OVER PROCUREMENT DOCUMENTS REFERENCED HEREIN. REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BID.

(A) ENTIRE STANDARD REVISED & REDRAWN

P.A.	NAVY - AS	TITLE	MILITARY STANDARD
Other Cost	USAF - 11 ARMY - AV	BOLT, SELF-LOCKING, 350° F., CRES, 48 KSI Ftu, 80 KSI Ftu, HEX HEAD	MS21095
PROCUREMENT SPECIFICATION MIL-B-6812 & MIL-F-18240	SUPERSEDES (A) MS21095(ASG)	SHEET 1 OF 3	

DD FORM 672-1 (Coordinated)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

PLAT 86. 15270

APPROVED 3 NOV 85 REVISED (A) 13 APR 71

0209 07000 0101

REVIEWER SYMBOLS:
NAVY - AS
USAF - 11
ARMY - AV

*Revision/user information is current as of the date of this document.
For future coordination of changes to this document, draft completion
should be based on the information in the current 000109.

This military standard is mandatory for use by all Departments
in Acquisition of the Department of Defense. Solicitation for all new
engineering and design applications and for replacement and shall
be made from this document.

FED. SUP CLASS
5306

LENGTH DASH NO. (g)	GRIP C ±.010	LENGTH +.031 -.015						
		6-32	8-32	10-32	1/4-28	5/16-24	3/8-24	7/16-20
001	.082	.375	.468	.468				
002	.125	.437	.531	.531	.594			
003	.187	.500	.603	.593	.656			
004	.250	.562	.656	.656	.719			
006	.375	.687	.781	.781	.844			
008	.500	.812	.906	.906		.906	1.078	
010	.625	.937	1.031	1.031	1.094	1.156	1.266	1.281
012	.750	1.062	1.156	1.156	1.219	1.281	1.391	1.406
014	.875	1.187	1.281	1.281	1.344	1.406	1.516	1.531
016	1.000	1.312	1.406	1.406	1.468	1.531	1.641	1.656
018	1.125	1.437	1.531	1.531	1.594	1.656	1.766	1.781
020	1.250	1.562	1.656	1.656	1.719	1.781	1.891	1.906
022	1.375	1.687	1.781	1.781	1.844	1.906	2.016	2.031
024	1.500	1.812	1.906	1.906	1.968	2.031	2.141	2.156
026	1.625	1.937	2.031	2.031	2.094	2.156	2.266	2.281
028	1.750	2.062	2.156	2.156	2.219	2.281	2.391	2.406
030	1.875	2.187	2.281	2.281	2.344	2.406	2.516	2.531
032	2.000	2.312	2.406	2.406	2.468	2.531	2.641	2.656
034	2.125	2.437	2.531	2.531	2.594	2.656	2.766	2.781
036	2.250	2.562	2.656	2.656	2.719	2.781	2.891	2.906
038	2.375	2.687	2.781	2.781	2.844	2.906	3.016	3.031
040	2.500	2.812	2.906	2.906	2.968	3.031	3.141	3.156
042	2.625			3.031	3.094	3.156	3.266	3.281
044	2.750			3.156	3.219	3.281	3.391	3.406
046	2.875			3.281	3.344	3.406	3.516	3.531
048	3.000			3.406	3.468	3.531	3.641	3.656
050	3.125			3.531	3.594	3.656	3.766	3.781
052	3.250			3.656	3.719	3.781	3.891	3.906
054	3.375			3.781	3.844	3.906	4.016	4.031
056	3.500			3.906	3.968	4.031	4.141	4.156
058	3.625			4.031	4.094	4.156	4.266	4.281
060	3.750				4.219	4.281	4.391	4.406
062	3.875				4.344	4.406	4.516	4.531
064	4.000				4.468	4.531	4.641	4.656
066	4.125				4.594	4.656	4.766	4.781
068	4.250				4.719	4.781	4.891	4.906
070	4.375				4.844	4.906	5.016	5.031
072	4.500				4.968	5.031	5.141	5.156
074	4.625					5.156	5.266	5.281
076	4.750					5.281	5.391	5.406
078	4.875					5.406	5.516	5.531
080	5.000					5.531	5.641	5.656
082	5.125					5.656	5.766	5.781
084	5.250					5.781	5.891	5.906
086	5.375					5.906	6.016	6.031
088	5.500					6.031	6.141	6.156
090	5.625							6.281
092	5.750							6.406
094	5.875							6.531
096	6.000							6.656
098	6.125							6.781
100	6.250							6.906
102	6.375							7.031

CONT.

P.A. Other Code	NAVY - AS USAF - 11 ARMY - AV	TITLE BOLT, SELF-LOCKING, 250° F., CRES, 48 KSI Flu, 80 KSI Flu, HEX HEAD	MILITARY STANDARD MS21095
PROCUREMENT SPECIFICATION MIL-B-6812 & MIL-F-18240	SUPERSEDES (A) MS21095(ASG)	SHEET 2	

DD FORM 672-1 (Coordinated)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

PLATE 80, 15520

APPROVED 2 NOV 65 REVISED (A) FOR CHANGES SEE SHEET 1

FED. SUP. CI. 406
5306

USED SYMBOLS:

REVIEW SYMBOLS:
NAVY - AS
USAF - II
ARMY - AV

*Review/issue information is current as of the date of this document.
For future coordination of changes to this document, draft distribution
should be based on the information in the current 000155.

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& Agencies of the Department of Defense. No deviation for all new
engineering and design applications and for existing ones shall
be made from this document.

LENGTH DASH NO. (M)	GRIP G ±.010	LENGTH .031 - .015								
		1/2-20	9/16-18	5/8-18	3/4-16	7/8-14	1-12	1-1/8-12	1-1/4-12	
008	.500	1.291								
010	.625	1.406	1.531	1.656						
012	.750	1.531	1.656	1.781	1.906					
014	.875	1.656	1.781	1.906	2.031	2.156				
016	1.000	1.781	1.906	2.031	2.156	2.281	2.406			
018	1.125	1.906	2.031	2.156	2.281	2.406	2.531	2.656		
020	1.250	2.031	2.156	2.281	2.406	2.531	2.656	2.781	2.906	
022	1.375	2.156	2.281	2.406	2.531	2.656	2.781	2.906	3.031	3.156
024	1.500	2.281	2.406	2.531	2.656	2.781	2.906	3.031	3.156	3.281
026	1.625	2.406	2.531	2.656	2.781	2.906	3.031	3.156	3.281	3.406
028	1.750	2.531	2.656	2.781	2.906	3.031	3.156	3.281	3.406	3.531
030	1.875	2.656	2.781	2.906	3.031	3.156	3.281	3.406	3.531	3.656
032	2.000	2.781	2.906	3.031	3.156	3.281	3.406	3.531	3.656	3.781
034	2.125	2.906	3.031	3.156	3.281	3.406	3.531	3.656	3.781	3.906
036	2.250	3.031	3.156	3.281	3.406	3.531	3.656	3.781	3.906	4.031
038	2.375	3.156	3.281	3.406	3.531	3.656	3.781	3.906	4.031	4.156
040	2.500	3.281	3.406	3.531	3.656	3.781	3.906	4.031	4.156	4.281
042	2.625	3.406	3.531	3.656	3.781	3.906	4.031	4.156	4.281	4.406
044	2.750	3.531	3.656	3.781	3.906	4.031	4.156	4.281	4.406	4.531
046	2.875	3.656	3.781	3.906	4.031	4.156	4.281	4.406	4.531	4.656
048	3.000	3.781	3.906	4.031	4.156	4.281	4.406	4.531	4.656	4.781
050	3.125	3.906	4.031	4.156	4.281	4.406	4.531	4.656	4.781	4.906
052	3.250	4.031	4.156	4.281	4.406	4.531	4.656	4.781	4.906	5.031
054	3.375	4.156	4.281	4.406	4.531	4.656	4.781	4.906	5.031	5.156
056	3.500	4.281	4.406	4.531	4.656	4.781	4.906	5.031	5.156	5.281
058	3.625	4.406	4.531	4.656	4.781	4.906	5.031	5.156	5.281	5.406
060	3.750	4.531	4.656	4.781	4.906	5.031	5.156	5.281	5.406	5.531
062	3.875	4.656	4.781	4.906	5.031	5.156	5.281	5.406	5.531	5.656
064	4.000	4.781	4.906	5.031	5.156	5.281	5.406	5.531	5.656	5.781
066	4.125	4.906	5.031	5.156	5.281	5.406	5.531	5.656	5.781	5.906
068	4.250	5.031	5.156	5.281	5.406	5.531	5.656	5.781	5.906	6.031
070	4.375	5.156	5.281	5.406	5.531	5.656	5.781	5.906	6.031	6.156
072	4.500	5.281	5.406	5.531	5.656	5.781	5.906	6.031	6.156	6.281
074	4.625	5.406	5.531	5.656	5.781	5.906	6.031	6.156	6.281	6.406
076	4.750	5.531	5.656	5.781	5.906	6.031	6.156	6.281	6.406	6.531
078	4.875	5.656	5.781	5.906	6.031	6.156	6.281	6.406	6.531	6.656
080	5.000	5.781	5.906	6.031	6.156	6.281	6.406	6.531	6.656	6.781
082	5.125	5.906	6.031	6.156	6.281	6.406	6.531	6.656	6.781	6.906
084	5.250	6.031	6.156	6.281	6.406	6.531	6.656	6.781	6.906	7.031
086	5.375	6.156	6.281	6.406	6.531	6.656	6.781	6.906	7.031	7.156
088	5.500	6.281	6.406	6.531	6.656	6.781	6.906	7.031	7.156	7.281
090	5.625	6.406	6.531	6.656	6.781	6.906	7.031	7.156	7.281	7.406
092	5.750	6.531	6.656	6.781	6.906	7.031	7.156	7.281	7.406	7.531
094	5.875	6.656	6.781	6.906	7.031	7.156	7.281	7.406	7.531	7.656
096	6.000	6.781	6.906	7.031	7.156	7.281	7.406	7.531	7.656	7.781
098	6.125	6.906	7.031	7.156	7.281	7.406	7.531	7.656	7.781	7.906
100	6.250	7.031	7.156	7.281	7.406	7.531	7.656	7.781	7.906	8.031
102	6.375	7.156	7.281	7.406	7.531	7.656	7.781	7.906	8.031	8.156
104	6.500	7.281	7.406	7.531	7.656	7.781	7.906	8.031	8.156	8.281
106	6.625	7.406	7.531	7.656	7.781	7.906	8.031	8.156	8.281	8.406
108	6.750	7.531	7.656	7.781	7.906	8.031	8.156	8.281	8.406	8.531
110	6.875	7.656	7.781	7.906	8.031	8.156	8.281	8.406	8.531	8.656
112	7.000	7.781	7.906	8.031	8.156	8.281	8.406	8.531	8.656	8.781
114	7.125	7.906	8.031	8.156	8.281	8.406	8.531	8.656	8.781	8.906
116	7.250	8.031	8.156	8.281	8.406	8.531	8.656	8.781	8.906	9.031
118	7.375	8.156	8.281	8.406	8.531	8.656	8.781	8.906	9.031	9.156
120	7.500	8.281	8.406	8.531	8.656	8.781	8.906	9.031	9.156	9.281
122	7.625	8.406	8.531	8.656	8.781	8.906	9.031	9.156	9.281	9.406
124	7.750	8.531	8.656	8.781	8.906	9.031	9.156	9.281	9.406	9.531
126	7.875	8.656	8.781	8.906	9.031	9.156	9.281	9.406	9.531	9.656
128	8.000	8.781	8.906	9.031	9.156	9.281	9.406	9.531	9.656	9.781

(G) UNASSIGNED DASH NUMBERS SHALL NOT BE USED EXCEPT THOSE DASH NUMBERS INCLUDED BY THE FOLLOWING CODING NOTE: DASH NUMBERS INDICATE PREFERRED GRIP LENGTHS IN .125 INCHES FOR LENGTHS LONGER THAN .250 INCHES. INTERMEDIATE GRIP LENGTHS BETWEEN THOSE LENGTHS LISTED MAY BE SPECIFIED IN .062 INCHES BY INTERMEDIATE DASH NUMBERS. LENGTH AND GRIP OF A BOLT WITH AN ODD NUMBER FOR THE DASH NUMBER WILL BE .062 GREATER THAN SHOWN FOR THE BOLT WITH THE PRECEDING EVEN DASH NUMBER.

P A	NAVY - AS	TITLE	MILITARY STANDARD
Other Cast	USAF - II	BOLT, SELF-LOCKING, 250°F., CRES, 48 KSI F _{tu} , 80 KSI F _{tu} , HEX HEAD	MS21095
ARMY - AV			
PRELIMINARY SPECIFICATION	SUPERSEDES (A)	MS21095(ASG)	SHEET 3
MIL-STD-8832 & MIL-F-10240			

DD FORM 672-1 (Continued)

Previous Editions of this form are obsolete.

PLATE NO. 12329

U. S. GOVERNMENT PRINTING OFFICE: 1971-011-000-012

APPROVED 2 NOV 65 REVISED 1 FOR CHANGES SEE SHEET 1