

USER ACTIVITIES

REVIEWER ACTIVITIES:
ARMY - MT, ME,
DIA - 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.

POINT SHALL BE
FLAT AND CHAMFERED
LENGTH OF POINT TO
FIRST COMPLETE
THREAD NOT TO
EXCEED J.

THREAD T
SPEC MIL-
S-7742

THREAD RUNOUT MAX 2 INCOMPLETE THREADS

CHAMFER ON BOTTOM FACE
45° TO DIMENSION "H" OPTIONAL

45° TO "H" DIA.

FED. SUP CLASS
5306

DISRAD
500

MARK WITH X RAISED
OR DEPRESSED .010
MAX.

J ± 45°

(a) GRIP
LENGTH

DRILL .070 ± .005 3 HOLES. BREAKING OF
SHARP EDGES OF DRILLED HOLES IS
MANDATORY.

DRILL .149 FOR NO. 10 SIZE DRILL .188 -
FOR 1/4 THROUGH 3/4 SIZES. COUNTERSINKING
OF DRILLED HOLE IS OPTIONAL.

SIZE DASH NO.	THREAD T	A DIA.		B		(b) C REF	D		F MIN	G + .000 - .010	H DIA.		J		RATED STRENGTH, LBS	
		MAX.	MIN.	MAX.	MIN.		MAX.	MIN.			MAX.	MIN.	MAX.	MIN.	(c) TENSION AT ROOT DIA.	SINGLE SHEAR AT FULL DIA.
05-	NO. 10-24 UNC-3A	.180	.186	.376	.367	.430	.203	.172	.039	.120	.391	.359	.047	.015	1 800	2 125
06-	1/4-20 UNC-3A	.249	.246	.439	.430	.510	.234	.203	.052	.144	.454	.422			3 360	3 680
08-	5/16-18 UNC-3A	.312	.309	.501	.492	.580	.297	.266	.078	.172	.516	.484			5 660	5 750
09-	3/8-16 UNC-3A	.374	.371	.564	.554	.650					.579	.547	.063	.031	8 470	8 800
10-	7/16-14 UNC-3A	.437	.433	.689	.679	.790	.344	.313			.704	.672			11 680	11 750
11-	1/2-13 UNC-3A	.499	.495	.751	.741	.870	.391	.359	.094	.188	.766	.734			15 730	14 700
12-	9/16-12 UNC-3A	.562	.558	.876	.865	1.010	.438	.406	.109	.203	.891	.859			20 300	18 700
13-	5/8-11 UNC-3A	.624	.620	.939	.928	1.090	.484	.453	.140	.234	.954	.922	.078	.046	25 100	23 000
14-	3/4-10 UNC-3A	.749	.744	1.064	1.053	1.230	.578	.547	.187	.281	1.073	1.047			37 800	33 150

(a) GRIP LENGTH OF BOLTS SHALL BE MEASURED FROM THE UNDERSIDE OF THE HEAD TO END OF THE FULL CYLINDRICAL PORTION OF THE SHANK. COMPLETE THREADS SHALL BEGIN WITHIN TWO-THREAD PITCH MAXIMUM. TWO-THREAD PITCH MAXIMUM MAY CONSIST OF INCOMPLETE THREAD OR EXTRUSION ANGLE.

(b) REFERENCE DIMENSIONS ARE FOR DESIGN PURPOSES ONLY AND ARE NOT AN INSPECTION REQUIREMENT.

(c) MINIMUM YIELD STRENGTH = 76.7 PERCENT OF RATED TENSION.

MATERIAL: STEEL, SEE PROCUREMENT SPECIFICATIONS.

(B) PLATING: CADMIUM PLATE QQ-P-416, TYPE II, CLASS 2.

DIMENSIONS IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES: DECIMALS ± .010, ANGLES ± 5°.
EXAMPLES OF PART NUMBERS: MS20074-05-07 = 5/16-18 UNC-3A BOLT, .375 GRIP, .922 LONG.
UNASSIGNED DASH NUMBERS SHALL NOT BE USED.

THIS STANDARD TAKES PRECEDENCE OVER DOCUMENTS REFERENCED HEREIN.

REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BID.

THIS DOCUMENT HAS BEEN PROMULGATED BY THE DEPARTMENT OF DEFENSE AS THE MILITARY STANDARD TO LIMIT THE SELECTION OF THE ITEM, PRODUCT, OR DESIGN COVERED HEREIN IN ENGINEERING, DESIGN, AND PROCUREMENT, THIS STANDARD SHALL BECOME EFFECTIVE NOT LATER THAN 90 DAYS AFTER THE LATEST DATE OF APPROVAL SHOWN.

P. A. AIR FORCE - 82 Other ARMY - AV NAVY - AS AIR FORCE - 99	INTERNATIONAL INTEREST	TITLE BOLT, MACHINE, AIRCRAFT, DRILLED HEAD, COARSE THREAD	MILITARY STANDARD MS 20074
PROCUREMENT SPECIFICATION MIL-B-6812	SUPERSEDES	AN73 THRU AN81	SHEET 1 OF 3

DD FORM 672-1 (COORDINATED)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

Project Number 5306-0960

APPROVED 16 SEPT 59 REVISED (A) 28 MAY 64 (B) 13 JUNE 1985

USER ACTIVITIES

NEW ACTIVITIES

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LENGTH DASH NO.	-03			-04			-05			-06			-07		
	GRIP +.016	LENGTH +.031 -.016	K REF (MIN)	GRIP +.016	LENGTH +.031 -.016	K REF (MIN)	GRIP +.016	LENGTH +.031 -.016	K REF (MIN)	GRIP +.016	LENGTH +.031 -.016	K REF (MIN)	GRIP +.016	LENGTH +.031 -.016	K REF (MIN)
02	.062	.344	.250												
03	.062	.469	.375	.062	.469	.375									
04	.062	.594	.500	.062	.594	.500	.062	.609	.515						
05	.125	.656	.499	.125	.656	.499	.125	.672	.515	.062	.734	.640			
06	.250	.781	.499	.250	.781	.499	.250	.797	.515	.125	.797	.640	.062	.797	.703
07	.375	.906	.499	.375	.906	.499	.375	.922	.515	.250	.922	.640	.188	.922	.702
10	.500	1.031	.499	.500	1.031	.499	.500	1.047	.515	.375	1.047	.640	.312	1.047	.703
11	.625	1.156	.499	.625	1.156	.499	.625	1.172	.515	.500	1.172	.640	.438	1.172	.702
12	.750	1.281	.499	.750	1.281	.499	.750	1.297	.515	.625	1.297	.640	.562	1.297	.703
13	.875	1.406	.499	.875	1.406	.499	.875	1.422	.515	.750	1.422	.640	.688	1.422	.702
14	1.000	1.531	.499	1.000	1.531	.499	1.000	1.547	.515	.875	1.547	.640	.812	1.547	.703
15	1.125	1.656	.499	1.125	1.656	.499	1.125	1.672	.515	1.000	1.672	.640	.938	1.672	.702
16	1.250	1.781	.499	1.250	1.781	.499	1.250	1.797	.515	1.125	1.797	.640	1.062	1.797	.703
17	1.375	1.906	.499	1.375	1.906	.499	1.375	1.922	.515	1.250	1.922	.640	1.188	1.922	.702
20	1.500	2.031	.499	1.500	2.031	.499	1.500	2.047	.515	1.375	2.047	.640	1.312	2.047	.703
21	1.625	2.156	.499	1.625	2.156	.499	1.625	2.172	.515	1.500	2.172	.640	1.438	2.172	.702
22	1.750	2.281	.499	1.750	2.281	.499	1.750	2.297	.515	1.625	2.297	.640	1.562	2.297	.703
23	1.875	2.406	.499	1.875	2.406	.499	1.875	2.422	.515	1.750	2.422	.640	1.688	2.422	.702
24	2.000	2.531	.499	2.000	2.531	.499	2.000	2.547	.515	1.875	2.547	.640	1.812	2.547	.703
25	2.125	2.656	.499	2.125	2.656	.499	2.125	2.672	.515	2.000	2.672	.640	1.938	2.672	.702
26	2.250	2.781	.499	2.250	2.781	.499	2.250	2.797	.515	2.125	2.797	.640	2.062	2.797	.703
27	2.375	2.906	.499	2.375	2.906	.499	2.375	2.922	.515	2.250	2.922	.640	2.188	2.922	.702
30	2.500	3.031	.499	2.500	3.031	.499	2.500	3.047	.515	2.375	3.047	.640	2.312	3.047	.703
31	2.625	3.156	.499	2.625	3.156	.499	2.625	3.172	.515	2.500	3.172	.640	2.438	3.172	.702
32	2.750	3.281	.499	2.750	3.281	.499	2.750	3.297	.515	2.625	3.297	.640	2.562	3.297	.703
33	2.875	3.406	.499	2.875	3.406	.499	2.875	3.422	.515	2.750	3.422	.640	2.688	3.422	.702
34	3.000	3.531	.499	3.000	3.531	.499	3.000	3.547	.515	2.875	3.547	.640	2.812	3.547	.703
35	3.125	3.656	.499	3.125	3.656	.499	3.125	3.672	.515	3.000	3.672	.640	2.938	3.672	.702
36	3.250	3.781	.499	3.250	3.781	.499	3.250	3.797	.515	3.125	3.797	.640	3.062	3.797	.703
37	3.375	3.906	.499	3.375	3.906	.499	3.375	3.922	.515	3.250	3.922	.640	3.188	3.922	.702
40	3.500	4.031	.499	3.500	4.031	.499	3.500	4.047	.515	3.375	4.047	.640	3.312	4.047	.703
41	3.625	4.156	.499	3.625	4.156	.499	3.625	4.172	.515	3.500	4.172	.640	3.438	4.172	.702
42	3.750	4.281	.499	3.750	4.281	.499	3.750	4.297	.515	3.625	4.297	.640	3.562	4.297	.703
43	3.875	4.406	.499	3.875	4.406	.499	3.875	4.422	.515	3.750	4.422	.640	3.688	4.422	.702
44	4.000	4.531	.499	4.000	4.531	.499	4.000	4.547	.515	3.875	4.547	.640	3.812	4.547	.703
45	4.125	4.656	.499	4.125	4.656	.499	4.125	4.672	.515	4.000	4.672	.640	3.938	4.672	.702
46	4.250	4.781	.499	4.250	4.781	.499	4.250	4.797	.515	4.125	4.797	.640	4.062	4.797	.703
47	4.375	4.906	.499	4.375	4.906	.499	4.375	4.922	.515	4.250	4.922	.640	4.188	4.922	.702
50	4.500	5.031	.499	4.500	5.031	.499	4.500	5.047	.515	4.375	5.047	.640	4.312	5.047	.703
51	4.625	5.156	.499	4.625	5.156	.499	4.625	5.172	.515	4.500	5.172	.640	4.438	5.172	.702
52	4.750	5.281	.499	4.750	5.281	.499	4.750	5.297	.515	4.625	5.297	.640	4.562	5.297	.703
53	4.875	5.406	.499	4.875	5.406	.499	4.875	5.422	.515	4.750	5.422	.640	4.688	5.422	.702
54	5.000	5.531	.499	5.000	5.531	.499	5.000	5.547	.515	4.875	5.547	.640	4.812	5.547	.703
55	5.125	5.656	.499	5.125	5.656	.499	5.125	5.672	.515	5.000	5.672	.640	4.938	5.672	.702
56	5.250	5.781	.499	5.250	5.781	.499	5.250	5.797	.515	5.125	5.797	.640	5.062	5.797	.703
57	5.375	5.906	.499	5.375	5.906	.499	5.375	5.922	.515	5.250	5.922	.640	5.188	5.922	.702
60	5.500	6.031	.499	5.500	6.031	.499	5.500	6.047	.515	5.375	6.047	.640	5.312	6.047	.703

APPROVED 18 SEP 64 REVISED (8) FOR CHANGES SEE SHEETS 1 AND 2

AIR FORCE 82 Other Civil ARMY AV NAVY AS AIR FORCE 89	INTERNATIONAL INTEREST	TITLE BOLT, MACHINE, AIRCRAFT, DRILLED HEAD, COARSE THREAD	MILITARY STANDARD
PROCUREMENT SPECIFICATION NIL-8-6812			MS 20074
SUPERSEDED:			SHEET 2 OF 3

USER ACTIVITIES:

REVIEWER ACTIVITIES:
ARMY - NI, NE
DIA - 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.

LENGTH DASH NO.	-08			-09			-10			-12		
	GRIP ±.016	LENGTH +.031 -.016	K REF (MIN)	GRIP ±.016	LENGTH +.031 -.016	K REF (MIN)	GRIP ±.016	LENGTH +.031 -.016	K REF (MIN)	GRIP ±.016	LENGTH +.031 -.016	K REF (MIN)
10	.250	1.047	.765									
11	.375	1.172	.765									
12	.500	1.297	.765	.438	1.312	.842						
13	.625	1.422	.765	.562	1.438	.842						
14	.750	1.547	.765	.688	1.562	.842	.562	1.562	.968			
15	.875	1.672	.765	.812	1.688	.842	.688	1.688	.968			
16	1.000	1.797	.765	.938	1.812	.842	.812	1.812	.968	.750	1.812	1.030
17	1.125	1.922	.765	1.062	1.938	.842	.938	1.938	.968	.875	1.938	1.030
20	1.250	2.047	.765	1.188	2.062	.842	1.062	2.062	.968	1.000	2.062	1.030
21	1.375	2.172	.765	1.312	2.188	.842	1.188	2.188	.968	1.125	2.188	1.030
22	1.500	2.297	.765	1.438	2.312	.842	1.312	2.312	.968	1.250	2.312	1.030
23	1.625	2.422	.765	1.562	2.438	.842	1.438	2.438	.968	1.375	2.438	1.030
24	1.750	2.547	.765	1.688	2.562	.842	1.562	2.562	.968	1.500	2.562	1.030
25	1.875	2.672	.765	1.812	2.688	.842	1.688	2.688	.968	1.625	2.688	1.030
26	2.000	2.797	.765	1.938	2.812	.842	1.812	2.812	.968	1.750	2.812	1.030
27	2.125	2.922	.765	2.062	2.938	.842	1.938	2.938	.968	1.875	2.938	1.030
30	2.250	3.047	.765	2.188	3.062	.842	2.062	3.062	.968	2.000	3.062	1.030
31	2.375	3.172	.765	2.312	3.188	.842	2.188	3.188	.968	2.125	3.188	1.030
32	2.500	3.297	.765	2.438	3.312	.842	2.312	3.312	.968	2.250	3.312	1.030
33	2.625	3.422	.765	2.562	3.438	.842	2.438	3.438	.968	2.375	3.438	1.030
34	2.750	3.547	.765	2.688	3.562	.842	2.562	3.562	.968	2.500	3.562	1.030
35	2.875	3.672	.765	2.812	3.688	.842	2.688	3.688	.968	2.625	3.688	1.030
36	3.000	3.797	.765	2.938	3.812	.842	2.812	3.812	.968	2.750	3.812	1.030
37	3.125	3.922	.765	3.062	3.938	.842	2.938	3.938	.968	2.875	3.938	1.030
40	3.250	4.047	.765	3.188	4.062	.842	3.062	4.062	.968	3.000	4.062	1.030
41	3.375	4.172	.765	3.312	4.188	.842	3.188	4.188	.968	3.125	4.188	1.030
42	3.500	4.297	.765	3.438	4.312	.842	3.312	4.312	.968	3.250	4.312	1.030
43	3.625	4.422	.765	3.562	4.438	.842	3.438	4.438	.968	3.375	4.438	1.030
44	3.750	4.547	.765	3.688	4.562	.842	3.562	4.562	.968	3.500	4.562	1.030
45	3.875	4.672	.765	3.812	4.688	.842	3.688	4.688	.968	3.625	4.688	1.030
46	4.000	4.797	.765	3.938	4.812	.842	3.812	4.812	.968	3.750	4.812	1.030
47	4.125	4.922	.765	4.062	4.938	.842	3.938	4.938	.968	3.875	4.938	1.030
50	4.250	5.047	.765	4.188	5.062	.842	4.062	5.062	.968	4.000	5.062	1.030
51	4.375	5.172	.765	4.312	5.188	.842	4.188	5.188	.968	4.125	5.188	1.030
52	4.500	5.297	.765	4.438	5.312	.842	4.312	5.312	.968	4.250	5.312	1.030
53	4.625	5.422	.765	4.562	5.438	.842	4.438	5.438	.968	4.375	5.438	1.030
54	4.750	5.547	.765	4.688	5.562	.842	4.562	5.562	.968	4.500	5.562	1.030
55	4.875	5.672	.765	4.812	5.688	.842	4.688	5.688	.968	4.625	5.688	1.030
56	5.000	5.797	.765	4.938	5.812	.842	4.812	5.812	.968	4.750	5.812	1.030
57	5.125	5.922	.765	5.062	5.938	.842	4.938	5.938	.968	4.875	5.938	1.030
60	5.250	6.047	.765	5.188	6.062	.842	5.062	6.062	.968	5.000	6.062	1.030

APPROVED 18 SEP 64 REVISED (B) FOR CHANGES SEE SHEETS 1 AND 2

P. A. AIR FORCE 82 Other Cost ARMY- AV NAVY- AS AIR FORCE 97	INTERNATIONAL INTEREST	TITLE BOLT, MACHINE, AIRCRAFT, DRILLED HEAD, COARSE THREAD	MILITARY STANDARD MS20074
PROCUREMENT SPECIFICATION MIL-B-6812	SUPERSEDES	SHEET 3 OF 3	

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