

TABLE I. FLATHEAD.

DASH NO	THREAD SIZE T	GRIP RANGE	IDENT MARK	SHANK LENGTH	
				A $\pm .015$	M REF
1	.112-40UNC-3B	.010-.060	BLANK	.345	.230
2		.060-.085	1-RAD	.370	.230
3		.085-.110	2-RAD	.400	.230
4		.110-.135	3-RAD	.425	.230
5		.135-.160	4-RAD	.450	.230
6		.160-.185	5-RAD	.480	.230
7	.138-32UNC-3B	.010-.075	1-RAD	.438	.300
8		.075-.120	3-RAD	.500	.315
9		.120-.160	5-RAD	.500	.270
10		.160-.200	1-CIRC	.562	.290
11		.200-.240	2-CIRC	.625	.310
12		.240-.280	3-CIRC	.687	.330
13	.164-32UNC-3B	.010-.075	1-RAD	.438	.300
14		.075-.120	3-RAD	.500	.315
15		.120-.160	5-RAD	.500	.270
16		.160-.200	1-CIRC	.625	.350
17		.200-.240	2-CIRC	.625	.305
18		.240-.280	3-CIRC	.687	.340
19	.190-24UNC-3B	.010-.080	BLANK	.531	.380
20		.080-.130	1-RAD	.594	.390
21		.130-.180	2-RAD	.641	.390
22		.180-.230	3-RAD	.703	.395
23		.230-.280	4-RAD	.750	.395
24		.280-.330	5-RAD	.797	.385
25	.190-32UNF-3B	.010-.080	BLANK	.531	.380
26		.080-.130	1-RAD	.594	.390
27		.130-.180	2-RAD	.641	.390
28		.180-.230	3-RAD	.703	.395
29		.230-.280	4-RAD	.750	.395
30		.280-.330	5-RAD	.797	.385
31	.250-20UNC-3B	.020-.080	BLANK	.625	.450
32		.080-.140	1-RAD	.687	.450
33		.140-.200	2-RAD	.750	.450
34		.200-.260	3-RAD	.812	.445
35		.260-.320	4-RAD	.875	.445
36		.320-.380	5-RAD	.937	.445

(F) DENOTES CHANGES

PA Other Cast	AR 99 AS	INTERNATIONAL INTEREST	TITLE NUT, PLAIN, BLIND RIVET - FLAT AND COUNTERSUNK HEAD, OPEN END	MILITARY STANDARD MS27130
PROCUREMENT SPECIFICATION NONE		SUPERSEDES IN PART - NAS 452, NAS 453, NAS 1329 AND NAS 1330		PAGE 1 OF 5

USER ACTIVITIES  
ARMY - AT, ME, MI

REVIEWER ACTIVITIES  
ARMY - AV, EA  
NAVY - OS  
DLA - IS  
NSA - NS

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.

FEC SUP CLASS  
5310

TABLE I. FLATHEAD. - CONTINUED

DASH NO	THREAD SIZE T	GRIP RANGE	IDENT MARK	SHANK LENGTH	
				A ±.015	M REF
37	.250-28UNF-3B	.020-.080	BLANK	.625	.450
38		.080-.140	1-RAD	.687	.450
39		.140-.200	2-RAD	.750	.450
40		.200-.260	3-RAD	.812	.445
41		.260-.320	4-RAD	.875	.445
42		.320-.380	5-RAD	.937	.445
43	.3125-18UNC-3B	.030-.125	BLANK	.750	.505
44		.125-.200	1-RAD	.875	.555
45		.200-.275	2-RAD	.937	.540
46		.275-.350	3-RAD	1.032	.560
47		.350-.425	4-RAD	1.125	.580
48		.425-.500	5-RAD	1.187	.565
49	.3125-24UNF-3B	.030-.125	BLANK	.750	.505
50		.125-.200	1-RAD	.875	.555
51		.200-.275	2-RAD	.937	.540
52		.275-.350	3-RAD	1.032	.560
53		.350-.425	4-RAD	1.125	.580
54		.425-.500	5-RAD	1.187	.565
55	.375-16UNC-3B	.030-.115	BLANK	.844	.585
56		.115-.200	1-RAD	.938	.595
57		.200-.285	2-RAD	1.031	.605
58		.285-.370	3-RAD	1.125	.615
59		.370-.455	4-RAD	1.218	.630
60		.455-.540	5-RAD	1.312	.635
61	.375-24UNF-3B	.030-.115	BLANK	.844	.585
62		.115-.200	1-RAD	.938	.595
63		.200-.285	2-RAD	1.031	.605
64		.285-.370	3-RAD	1.125	.615
65		.370-.455	4-RAD	1.218	.630
66		.455-.540	5-RAD	1.312	.635
67	.500-13UNC-3B	.050-.150	BLANK	.906	.605
68		.150-.250	1-RAD	1.031	.630
69		.250-.350	2-RAD	1.141	.640
70		.350-.450	3-RAD	1.250	.650
71	.500-20UNF-3B	.050-.150	BLANK	.906	.605
72		.150-.250	1-RAD	1.031	.630
73		.250-.350	2-RAD	1.141	.640
74		.350-.450	3-RAD	1.250	.650

TABLE II. FLATHEAD.

THREAD SIZE T	Ø B ±.015	C NOM	Ø D +.000 -.004	E MAX	F +.005 -.000	G MAX	INSTALL DRILL SIZE (REF)	INSTALL HOLE SIZE		KEYWAY	
								MIN	MAX	P +.003 -.000	H
.138	.325	.032	.189	.240	.054	.023	#12	.189	.193	.062	.056-.058
.164	.357	.032	.221	.271	.054	.023	#2	.221	.226	.062	.056-.058
.190	.406	.038	.250	.302	.054	.023	E	.250	.256	.062	.056-.058
.250	.475	.058	.332	.382	.054	.035	Q	.332	.338	.062	.056-.058
.3125	.665	.062	.413	.505	.120	.040	Z	.413	.423	.128	.097-.102
.375	.781	.088	.490	.597	.120	.040	12.5 mm	.490	.500	.128	.110-.115
.500	.906	.085	.625	.733	.120	.040	5/8	.625	.635	.128	.110-.115

USER ACTIVITIES  
 ARMY-AT, ME, MI  
 NAVY-AV, EA  
 DLA-IS  
 NSA-NS

Selection for engineering and design approval shall be made from this document when applicable.

APPROVED 21 MAR 61 REVISED FOR CHANGES SEE PAGE 5

PA	AR	INTERNATIONAL INTEREST	TITLE	MILITARY STANDARD
Other Cast	99		NUT, PLAIN, BLIND RIVET- FLAT AND COUNTERSUNK HEAD, OPEN END	MS27130
AS				
PROCUREMENT SPECIFICATION	SUPERSEDES		PAGE	OF
NONE	IN PART - NAS 452, NAS 453, NAS 1329 AND NAS 1330		2	5

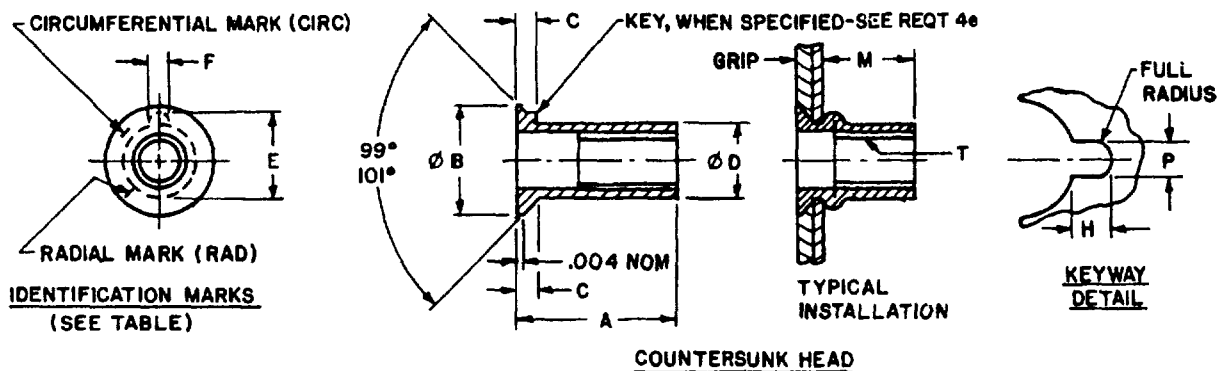


TABLE III. COUNTERSUNK HEAD.

DASH NO	THREAD SIZE T	GRIP RANGE	IDENT MARK	SHANK LENGTH	
				A $\pm .015$	H REF
81	.112-40UNC-3B	.050-.081	BLANK	.370	.235
82		.081-.106	1-RAD	.395	.235
83		.106-.131	2-RAD	.420	.235
84		.131-.156	3-RAD	.450	.235
85		.156-.181	4-RAD	.475	.235
86		.181-.206	5-RAD	.500	.235
87	.138-32UNC-3B	.065-.106	BLANK	.500	.325
88		.106-.161	2-RAD	.500	.280
89		.161-.201	4-RAD	.562	.295
90		.201-.241	1-CIRC	.625	.315
91		.241-.281	2-CIRC	.625	.270
92		.281-.321	3-CIRC	.687	.290
93	.164-32UNC-3B	.065-.106	BLANK	.500	.325
94		.106-.161	2-RAD	.500	.280
95		.161-.201	4-RAD	.562	.290
96		.201-.241	1-CIRC	.625	.310
97		.241-.281	2-CIRC	.687	.325
98		.281-.321	3-CIRC	.687	.295
127	.190-24UNC-3B	.065-.116	BLANK	.578	.395
128		.116-.166	1-RAD	.625	.385
129		.166-.216	2-RAD	.687	.400
130		.216-.266	3-RAD	.734	.390
131		.266-.316	4-RAD	.781	.385
132		.316-.366	5-RAD	.844	.400
99	.190-32UNF-3B	.065-.116	BLANK	.578	.395
100		.116-.166	1-RAD	.625	.385
101		.166-.216	2-RAD	.687	.400
102		.216-.266	3-RAD	.734	.390
103		.266-.316	4-RAD	.781	.385
104		.316-.366	5-RAD	.844	.400
133	.250-20UNC-3B	.089-.151	BLANK	.687	.440
134		.151-.211	1-RAD	.750	.440
135		.211-.271	2-RAD	.812	.440
136		.271-.331	3-RAD	.875	.435
137		.331-.391	4-RAD	.937	.435
138		.391-.451	5-RAD	1.000	.445

USER ACTIVITIES  
ARMY - AT, ME, MI

REVIEWER ACTIVITIES  
ARMY - AV, EA  
NAVY - OS  
DLA - IS  
NSA - NS

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P.A.	AR	INTERNATIONAL INTEREST	TITLE	MILITARY STANDARD
Other Cust	99 AS		NUT, PLAIN, BLIND RIVET - FLAT AND COUNTERSUNK HEAD, OPEN END	MS27130
PROCUREMENT SPECIFICATION	SUPERSEDES		PAGE	OF
NONE	IN PART - NAS 452, NAS 453, NAS 1329 AND NAS 1330		3	5

TABLE III. COUNTERSUNK HEAD. - CONTINUED

DASH NO	THREAD SIZE T	GRIP RANGE	IDENT MARK	SHANK LENGTH	
				A ±.015	M REF
105	.250-28UNF-3B	.089-.151	BLANK	.687	.440
106		.151-.211	1-RAD	.750	.440
107		.211-.271	2-RAD	.812	.440
108		.271-.331	3-RAD	.875	.435
109		.331-.391	4-RAD	.937	.435
110		.391-.451	5-RAD	1.000	.445
139	.3125-18UNC-3B	.106-.181	BLANK	.844	.540
140		.181-.256	1-RAD	.937	.560
141		.256-.331	2-RAD	1.000	.550
142		.331-.406	3-RAD	1.094	.565
143		.406-.481	4-RAD	1.156	.555
144		.481-.556	5-RAD	1.250	.575
111	.3125-24UNF-3B	.106-.181	BLANK	.844	.540
112		.181-.256	1-RAD	.937	.560
113		.256-.331	2-RAD	1.000	.550
114		.331-.406	3-RAD	1.094	.565
115		.406-.481	4-RAD	1.156	.555
116		.481-.556	5-RAD	1.250	.575
145	.375-16UNC-3B	.125-.211	BLANK	.938	.580
146		.211-.296	1-RAD	1.031	.590
147		.296-.381	2-RAD	1.125	.600
148		.381-.466	3-RAD	1.219	.615
149		.466-.551	4-RAD	1.312	.625
150		.551-.636	5-RAD	1.422	.650
117	.375-24UNF-3B	.125-.211	BLANK	.938	.580
118		.211-.296	1-RAD	1.031	.590
119		.296-.381	2-RAD	1.125	.600
120		.381-.466	3-RAD	1.219	.615
121		.466-.551	4-RAD	1.312	.625
122		.551-.636	5-RAD	1.422	.650
151	.500-13UNC-3B	.125-.226	BLANK	.984	.610
152		.226-.326	1-RAD	1.094	.620
153		.326-.426	2-RAD	1.218	.640
154		.426-.526	3-RAD	1.312	.635
123	.500-20UNF-3B	.125-.226	BLANK	.984	.610
124		.226-.326	1-RAD	1.094	.620
125		.326-.426	2-RAD	1.218	.640
126		.426-.526	3-RAD	1.312	.635

TABLE IV COUNTERSUNK HEAD.

THREAD SIZE T	Ø B REF	C MAX	Ø D +.000 -.004	E MAX	F +.005 -.000	INSTALL DRILL SIZE (PT)	INSTALL HOLE SIZE		KEYWAY	
							MIN	MAX	P +.003 -.000	H
.138	.323	.063	.189	.240	.054	#12	.189	.193	.062	.056 .058
.164	.355	.063	.221	.271	.054	#2	.221	.226	.062	.056-.058
.190	.391	.065	.250	.302	.054	E	.250	.256	.062	.056-.058
.250	.529	.089	.332	.382	.054	Q	.332	.338	.062	.056- .058
.3125	.656	.104	.413	.505	.120	Z	.413	.423	.128	.097- .102
.375	.770	.124	.490	.597	.120	12.5 mm	.490	.500	.128	.110-.115
.500	.906	.124	.625	.733	.120	5/8	.625	.635	.128	.110-.115

USER ACTIVITIES  
ARMY - AT, ME, MI  
  
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APPROVED 21 MAR 61 REVISED (F) FOR CHANGES SEE PAGE 5

PA	AR	INTERNATIONAL INTEREST	TITLE	MILITARY STANDARD
Other Cust	99		NUT, PLAIN, BLIND RIVET- FLAT AND COUNTERSUNK HEAD, OPEN END	MS27130
AS				
PROCUREMENT SPECIFICATION	SUPERSEDES		PAGE	OF
NONE	IN PART-NAS 452, NAS 453, NAS 1329 AND NAS 1330		4	5

REQUIREMENTS:

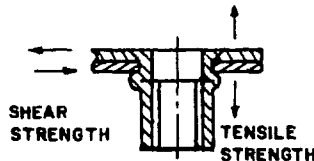
1. MATERIAL.
  - a. STEEL, CARBON, GRADE 1008 (UNS G10080), GRADE 1010 (UNS G10100), GRADE 11C8 (UNS G11080), OR GRADE 1110 (UNS G11100) IN ACCORDANCE WITH ASTM A549 OR ASTM A576 AS APPLICABLE. GRADE 1215 (UNS G12150) IN ACCORDANCE WITH ASTM A108 MAY BE USED WHEN REQUIRED.
  - b. ALUMINUM ALLOY, GRADE 6053-T4 \* (UNS A96053) IN ACCORDANCE WITH ASTM B316 OR QQ-A-430 AS APPLICABLE. \*EXCEPT TEMPER. GRADE 6061-T6 (UNS A96061) IN ACCORDANCE WITH QQ-A-225/8 MAY BE USED WHEN REQUIRED.
  - c. STEEL, CORROSION RESISTANT, TYPE 430 (UNS S43000) IN ACCORDANCE WITH ASTM A276 OR ASTM A580 AS APPLICABLE.
  - d. BRASS, ALLOY NO.260 (UNS C26000) OR ALLOY NO. 270 (UNS C27000) IN ACCORDANCE WITH QQ-P-32 (FLAT HEAD ONLY)
2. PROTECTIVE COATING AND SURFACE TREATMENT.
  - a. STEEL SHALL BE CADMIUM PLATED IN ACCORDANCE WITH QQ-P-416, TYPE II, CLASS 3
  - b. ALUMINUM ALLOY, SHALL BE ANODIZED IN ACCORDANCE WITH MIL-A-8625, TYPE II
  - c. CORROSION RESISTANT STEEL SHALL BE CLEANED, DESCALED AND PASSIVATED IN ACCORDANCE WITH ASTM A380
3. THREADS. THE THREADS SHALL BE IN ACCORDANCE WITH MIL-S-7742 AND SHALL HAVE A MINIMUM OF 8 FULL THREADS.
4. PART NUMBER. THE PART NUMBER CONSISTS OF THE MS NUMBER, PLUS THE DASH NUMBER.
  - a. FOR STEEL NUT, ADD "S" BEFORE THE DASH NUMBER. EXAMPLE: MS27130-S1
  - b. FOR ALUMINUM ALLOY NUT, ADD "A" BEFORE THE DASH NUMBER. EXAMPLE: MS27130-A1
  - c. FOR CORROSION RESISTANT STEEL, ADD "CR" BEFORE THE DASH NUMBER. EXAMPLE: MS27130-CR1
  - d. FOR BRASS NUT, ADD "B" BEFORE THE DASH NUMBER. EXAMPLE: MS27130-B1
  - e. FOR A KEYED NUT, ADD "K" AFTER THE DASH NUMBER. EXAMPLE: MS27130-S1K
5. MARKING. NUTS SHALL BE PERMANENTLY MARKED IN ACCORDANCE WITH TABLE I OR III. IN ADDITION THE MANUFACTURERS IDENTIFICATION MARK MAY BE INCLUDED. THE MARKING SHALL NOT ADVERSELY AFFECT THE FUNCTION OR SERVICEABILITY OF THE NUT.

NOTES:

- 1 DIMENSIONS. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES.
- 2 SPECIAL PULL-UP TOOLS ARE REQUIRED FOR PROPER INSTALLATION. MANUFACTURER'S RECOMMENDATIONS SHOULD BE FOLLOWED
- 3 IN THE EVENT OF A CONFLICT BETWEEN THE TEXT OF THIS STANDARD AND THE REFERENCES CITED HEREIN, THE TEXT OF THIS STANDARD SHALL TAKE PRECEDENCE.
- 4 REFERENCED GOVERNMENT (OR NON-GOVERNMENT) DOCUMENTS OF THE ISSUE LISTED IN THAT ISSUE OF THE DEPARTMENT OF DEFENSE INDEX OF SPECIFICATIONS AND STANDARDS (DIS) SPECIFIED IN THE SOLICITATION FORM A PART OF THIS STANDARD TO THE EXTENT SPECIFIED HEREIN
- 5 COUNTERSUNK HEAD NUTS SHALL NOT BE SPECIFIED IN BRASS MATERIAL.

TABLE V

THREAD SIZE T	TENSILE STRENGTH LBS-MIN				SINGLE SHEAR STRENGTH LBS-MIN			
	AL ALY	STEEL	CRS	BRASS	AL ALY	STEEL	CRS	BRASS
.112	225	390	530	400	135	270	440	255
.138	320	560	760	575	200	390	640	365
.164	415	730	980	750	250	500	820	475
.190	525	930	1250	950	320	640	1040	610
.250	980	1580	2140	1720	600	940	1530	1050
.3125	1360	2340	3170	2550	790	1490	2420	1570
.375	1770	3330	4500	3350	1070	2070	3360	2070
.500	2650	4200	--	--	1830	2900	--	--



INTERCHANGEABILITY

THE FOLLOWING OLD DASH NUMBERS OF MS27130 ARE CANCELLED AFTER 22 MARCH 1974 AND SUPERSEDED BY THE NEW DASH NUMBERS OF MS27130 GIVEN IN THE PRECEDING SHEETS. THE CANCELLED DASH NUMBERS MAY BE USED UNTIL EXISTING STOCKS ARE DEPLETED. USE ONLY THE NEW DASH NUMBERS FOR DESIGN AND ENGINEERING. REPLACEMENT SHALL BE IN ACCORDANCE WITH TABLE VI. OLD DASH NUMBERS FOLLOWED BY A "K" ARE SUPERSEDED BY THE NEW DASH NUMBERS GIVEN IN TABLE VI, FOLLOWED BY A "K".

TABLE VI

OLD MS27130	NEW MS27130	OLD MS27130	NEW MS27130	OLD MS27130	NEW MS27130	OLD MS27130	NEW MS27130	OLD MS27130	NEW MS27130
DASH NO		DASH NO		DASH NO		DASH NO		DASH NO	
1	S1	17	S15	33	S50	48	A73	66	A45
2	A1	18	A15	34	A50	49	S31	67	CR43
3	S2	19	S25	35	S51	50	A31	68	CR44
4	A2	20	A25	36	A51	51	S32	69	CR45
5	S3	21	S26	37	S61	52	A32	70	S55
6	A3	22	A26	38	A61	53	S33	71	S56
7	S7	23	S27	39	S62	54	A33	72	S57
8	A7	24	A27	40	A62	55	CR31	73	CR55
9	S8	25	S37	41	S63	56	CR32	74	CR56
10	A8	26	A37	42	A63	57	CR33	75	CR57
11	S9	27	S38	43	S71	58	A43	76	A5
12	A9	28	A38	44	A71	59	A44	77	CR7
13	S13	29	S39	45	S72	60	S44	78	A16
14	A13	30	A39	46	A72	61	A44	79	A17
15	S14	31	S49	47	S73	62	S45	80	A29
16	A14	32	A49			63			

USER ACTIVITIES  
ARMY-AT, ME, MI

REVIEWER ACTIVITIES  
ARMY-AV, EA  
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PA Other Cust	AR 99 AS	INTERNATIONAL INTEREST	TITLE NUT, PLAIN, BLIND RIVET- FLAT AND COUNTERSUNK HEAD, OPEN END	MILITARY STANDARD MS27130
PROCUREMENT SPECIFICATION NONE	SUPERSEDES IN PART- NAS 452, NAS 453, NAS 1329 AND NAS 1330		PAGE 5	OF 5