

FED. SUP CLASS
5310

USER SYMBOL:

REVIEWER SYMBOLS:
ARMY - MI
NAVY - SH
AIR FORCE - 99
DLA - IS

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This military standard is approved for use by all Departments
& Agencies of the Department of Defense. Selection for all new
engineering and design applications and for repetitive use shall
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THIS STANDARD IS APPROVED FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE.

1. APPLICATION AND DESIGN SELECTION: THESE A.R.E. (ATTACHED RETENTION ELEMENT) NUT ASSEMBLIES SHALL BE SELECTED AND USED IN ACCORDANCE WITH MS14199 AND MS33588.
2. MILITARY INSTALLATION AND TOOLS: INSTALLATION AND TOOLING IS IN ACCORDANCE WITH NAVY NAVAIR-01-1A-8 AND AIR FORCE T.O. 1-1A-8.
3. OVERSIZE NUTS: MS14229 OVERSIZE NUTS SHALL BE USED AS REPLACEMENT FOR MS14228 NUTS.
4. REPLACEMENT NUT ELEMENT: MS14214
5. GENERAL REQUIREMENTS:

5.1 PERFORMANCE PER MIL-N-25027 EXCEPT AS FOLLOWS:

FOR TORQUE OUT AND PUSH OUT TEST, INSTALL NUT INTO 2024-T3 ALUMINUM ALLOY MATERIAL AND THEN CONDUCT TESTS. INSTALLATION HOLES SHALL BE PER TABLE 1 AND MINIMUM TORQUE OUT AND PUSH OUT VALUES PER MIL-N-25027.

5.2 MATERIAL:

- 5.2.1 NUT ELEMENT: CARBON STEEL AISI 1050 PER AMS 5085
- 5.2.2 SLEEVE: CRES AISI 304 PER AMS 5639, AISI 305 PER AMS 5514
- 5.2.3 CAGE: AISI 1050 PER AMS 5085

5.3 HEAT TREAT:

- 5.3.1 NUT ELEMENT: ROCKWELL C36 MIN.
- 5.3.2 CAGE: ROCKWELL C42-47

5.4 COATING:

- 5.4.1 SLEEVE AND CAGE SHALL BE CADMIUM PLATED PER QQ-P-416, TYPE II, CLASS 2.

- 5.4.2 NUT ELEMENT SHALL BE CADMIUM PLATED PER QQ-P-416, TYPE AND CLASS OPTIONAL PROVIDED THE ELEMENT MEETS THE SALT SPRAY REQUIREMENTS OF MIL-N-25027.

5.5 LUBRICANT:

- 5.5.1 NUT ELEMENT ONLY, SHALL BE DRY FILM LUBRICANT PER MIL-L-8937.

5.6 SURFACE TEXTURE:

- 5.6.1 SURFACE TEXTURE IN ACCORDANCE WITH ANSI B46.1 UNLESS OTHERWISE SPECIFIED, THE SURFACE ROUGHNESS SHALL NOT EXCEED 125 MICRO INCHES.

5.7 NUT FLOAT:

- 5.7.1 MINIMUM RADIAL FLOAT 0.020 INCH. THE NUT SHALL BE CAPABLE OF ENGAGEMENT WITH BOLT IN MAXIMUM MISALIGNED POSITION.

5.8 NUT REPLACEABILITY:

- 5.8.1 NUT ELEMENT SHALL BE REMOVABLE FROM THE BASKET WITH THE PROPER REMOVAL TOOL SPECIFIED IN THE PARA. 2, AND A NEW NUT PER MS14214 SHALL BE CAPABLE OF BEING SNAPPED IN PLACE IN THE BASKET.
- 5.8.2 CAGE REUSABILITY: CAGE SHALL BE CAPABLE OF BEING REUSED A MINIMUM OF 5 TIMES FOR THE REPLACEMENT OF THE NUT ELEMENT IN ACCORDANCE WITH MS14214. AFTER FIVE REUSES THE NUT SHALL MEET THE TORQUE OUT VALUES OF MIL-N-25027.

5.9 WORKMANSHIP:

- 5.9.1 BREAK ALL SHARP EDGES AND REMOVE ALL BURRS AND SLIVERS.
- 5.9.2 DIMENSIONS ARE IN INCHES.
- 5.9.3 TOLERANCES: DECIMALS $\pm .010$, ANGLES $\pm 5^\circ$ UNLESS OTHERWISE SPECIFIED.

P.A.
NAVY - AS
Other CustArmy-AV
Air Force-11PROCUREMENT SPECIFICATION
MIL-N-25027

TITLE

NUT, PLATE ASSEMBLY, FLOATING, SELF-LOCKING, ATTACHED RETENTION
ELEMENT (A.R.E.) COUNTERBORE, 450° ALLOY STEEL, 125 KSI Ftu,
REPLACEABLE NUT ELEMENT.

SUPERSEDES:

MILITARY STANDARD

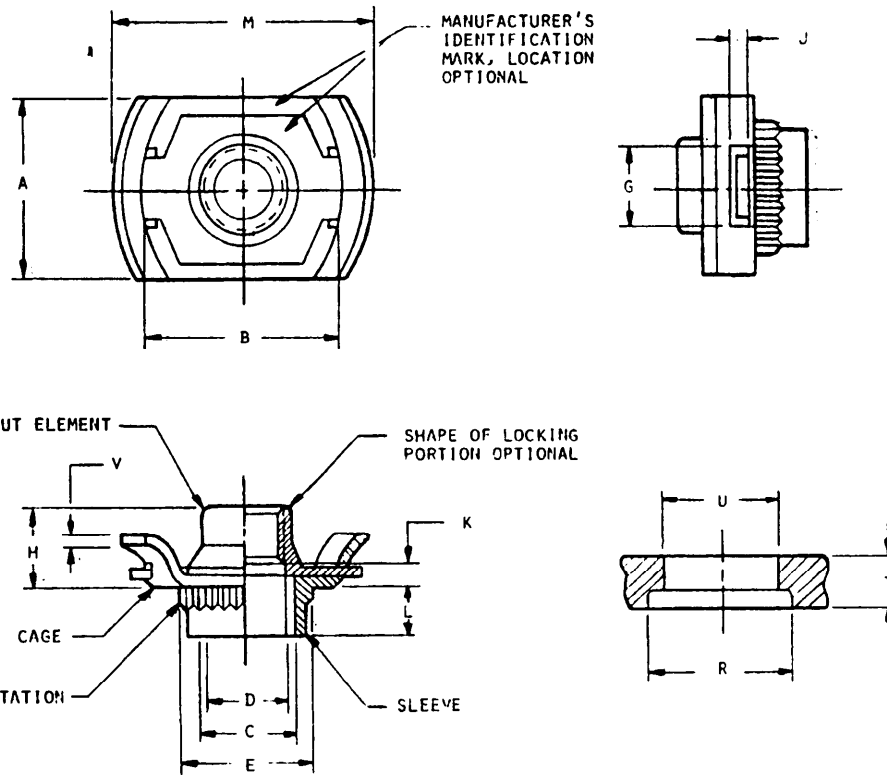
MS 14228

SHEET 1 OF 3

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6. ILLUSTRATION:



7. TABLE 1.

SIZE DASH NO.	THREAD SIZE	A MAX	B ±.010	D DIA MIN	E DIA MIN	G ±.010	H MAX	J ±.010	M MAX	R ±.005	C ±.010	K ±.010	AXIAL STRENGTH LBS MIN	(4) INSTL. HOLE LIM	V	
														U		+ .010
														MAX.	MIN.	
04	.1120-40UNJC-3B	.302	.318	.116	.228	.155	.214	.064	.435	.312	.192	.047	750	.222	.217	.020
06	.1380-32UNJC-3B	.302	.318	.142	.228	.155	.214	.064	.435	.312	.192	.047	1130	.222	.217	.020
08	.1640-32UNJC-3B	.400	.425	.168	.294	.187	.270	.075	.582	.375	.245	.051	1720	.285	.280	.025
3	.1900-32UNJF-3B	.400	.425	.194	.294	.187	.270	.075	.582	.375	.245	.051	2460	.285	.280	.025
4	.2500-28UNJF-3B	.455	.495	.254	.363	.198	.325	.083	.665	.515	.310	.112	4580	.352	.347	.035

- (a) INSTALLATION MAXIMUM AND MINIMUM HOLE LIMITS CAN BE REDUCED BY .009 INCH FOR SIZE DASH NO. 08, 3 AND 4 WHEN INSTALLING IN SOFT MATERIALS INCLUDING ALUMINUM ALLOYS WITH HARDNESS NOT EXCEEDING DIN 110 OR ROCKWELL B70.

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MILITARY STANDARD

MS 14228

PROCUREMENT SPECIFICATION
MIL-N-25027

SUPERSEDES:

SHEET 2 OF 3

DD FORM 1 MAR 72 672-1 (Coordinated)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

PLATE NO. 23066

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APPROVED 16 SEP 1985 REVISED

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8. TABLE 11

GRIP DASH NO.	T PANEL THICKNESS	L GRIP LENGTH
2 (b)	.025 - .040 (b)	.073
4	.041 - .062	.099
6	.063 - .094	.130
8	.095 - .125	.161
10	.126 - .156	.192
12	.157 - .187	.223
14	.188 - .218	.254
16	.219 - .250	.285
18	.251 - .281	.316
20	.282 - .312	.347
22	.313 - .343	.378
24	.344 - .374	.409
26	.375 - .405	.440
28	.406 - .436	.471
30	.437 - .467	.502

(b) NUT OF SIZE DASH NO. 4 SHALL NOT BE INSTALLED IN A PANEL
OF GRIP THICKNESS LESS THAN .060 INCH.

9. PART NUMBER EXAMPLE:

MS14228 OR 6
 CRIP DASH NUMBER (SEE TABLE 11)
 SIZE DASH NUMBER (SEE TABLE 1)
 MILITARY STANDARD NUMBER

10. ADMINISTRATIVE AND CONTRACTUAL PROVISIONS:

- 10.1 FOR DESIGN PURPOSES, THIS DOCUMENT TAKES PRECEDENCE OVER PROCUREMENT DOCUMENTS.
- 10.2 THE COMPLETE REQUIREMENTS FOR PROCURING THE ITEMS DESCRIBED AND DEFINED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE ISSUE IN EFFECT OF SPECIFICATION.

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SHEET 3 OF 3

