

FED. SUP CLASS
5310

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 ± 0.010 , ANGLES $\pm 5^\circ$ UNLESS OTHERWISE SPECIFIED.

Ⓐ CANCELLED AFTER 9 JAN 1989. USE MS14200.

APPROVED 16 SEP 1989
REMOVED Ⓐ 30 JAN 89

P.A. NAVY — AS Other Cust Army-AV, Air Force-99 PROCUREMENT 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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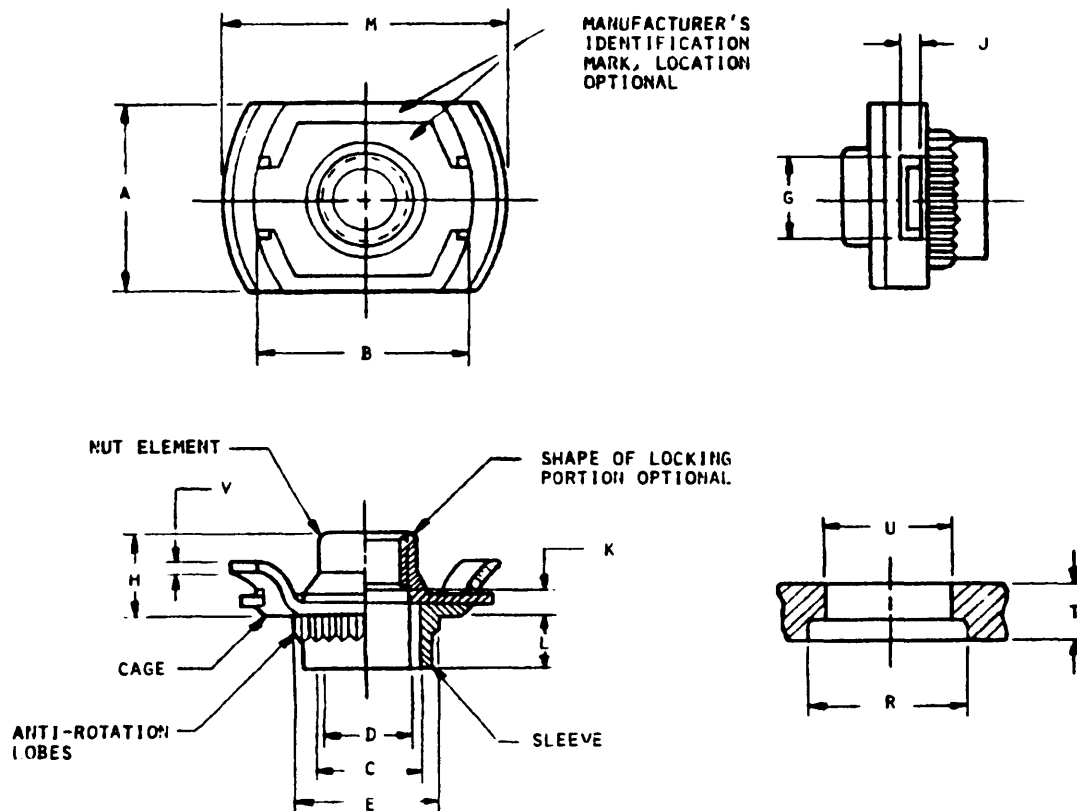
 For future contribution of changes
 should be based on the information in "Current DOORS"

 This military
 is required to use by all Departments
 of Defense. Substitution for all new
 engineering and design applications and for repetitive use shall
 be made from this document.

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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	(c) INSTL HOLE LIM		V +.010 -.000
														U		
														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

- (c) 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 DHN 110 OR ROCKWELL C 870.

APPROVED 16 SEP 1985 REVISED (A) FOR CHANGES SEE SHEET 1

P.A.
NAVY — AS
Other Cust
Army-AV
Air Force- 99

TITLE

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

MILITARY STANDARD

MS 14228

PROCUREMENT SPECIFICATION
MIL-N-25027

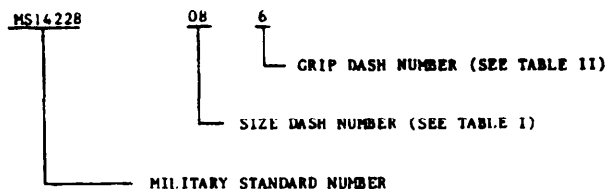
SUPERSEDES:

SHEET 2 OF 3

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8. TABLE II

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: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.

APPROVED 18 SEP 1983 REVISED (A) FOR CHANGES SEE SHEET 1

P.A. NAVY — AS Other Cust Army-AV Air Force- 99	TITLE NUT, PLATE ASSEMBLY, FLOATING, SELF-LOCKING, ATTACHED RETENTION ELEMENT (A.R.E.). COUNTERBORE, 450° ALLOY STEEL, 125 KSI F _{tu} , REPLACEABLE NUT ELEMENT.	MILITARY STANDARD	
		MS 14228	
PROCUREMENT SPECIFICATION MIL-N-25027	SUPERSEDES:	SHEET 3	OF 3

