

FED. SUP CLASS
5310

1. APPLICATION AND DESIGN SELECTION: THESE A.R.E. (ATTACHED RETENTION ELEMENT) NUT ASSEMBLIES SHALL BE SELECTED AND USED IN ACCORDANCE WITH MS33588.
2. MILITARY INSTALLATION AND TOOLS: NONE
3. REPLACEMENT NUT ELEMENT: MS14213(AS)
4. GENERAL REQUIREMENTS:
 - 4.1 PERFORMANCE PER MIL-N-25027.
 - 4.1.1 INSTALLATION HOLES SHALL BE PER TABLE II, PANEL CRIP THICKNESS PER TABLE III.
 - 4.2 MATERIAL:
 - 4.2.1 NUT ELEMENT: CRES A-286 PER AMS 5525.
 - 4.2.2 SLEEVE: CRES AISI 304 PER AMS 5639 OR AISI 305 PER AMS 5514.
 - 4.2.3 CAGE: CRES 17-7PH PER AMS 5528.
 - 4.3 HEAT TREAT
 - 4.3.1 NUT ELEMENT: 160 KSI MIN
 - 4.3.2 CAGE: 180 KSI MIN
 - 4.4 FINISH:
 - 4.4.1 NUT, SLEEVE AND CAGE SHALL BE PASSIVATED PER QQ-P-35.
 - 4.5 LUBRICANT:
 - 4.5.1 NUT ELEMENT SHALL BE DRY FILM LUBRICATED PER MIL-L-8937.
 - 4.6 SURFACE TEXTURE:
 - 4.6.1 SURFACE TEXTURE IN ACCORDANCE WITH ANSI B46.1. UNLESS OTHERWISE SPECIFIED, THE SURFACE ROUGHNESS SHALL NOT EXCEED 125 MICRO INCHES.
 - 4.7 NUT FLOAT:
 - 4.7.1 MINIMUM RADIAL FLOAT 0.020-INCH. THE NUT ELEMENT SHALL BE CAPABLE OF ENGAGEMENT WITH BOLT IN MAXIMUM MISALIGNED POSITION.
 - 4.8 NUT REPLACEABILITY:
 - 4.8.1 NUT ELEMENT SHALL BE REMOVABLE FROM THE BASKET WITH THE PROPER REMOVAL TOOL AND A NEW NUT ELEMENT PER MS14213(AS) SHALL BE CAPABLE OF BEING SNAPPED IN PLACE IN THE CAGE.
 - 4.8.2 CAGE REUSABILITY: CAGE SHALL BE CAPABLE OF BEING REUSED A MINIMUM OF 5 TIMES FOR THE REPLACEMENT OF THE MS14213(AS) NUT ELEMENT; THE NUT SHALL THEN MEET THE TORQUE OUT AND PUSH OUT VALUES OF MIL-N-25027.
 - 4.9 WORKMANSHIP:
 - 4.9.1 BREAK ALL SHARP EDGES AND REMOVE ALL BURRS AND SLIVERS.
 - 4.9.2 DIMENSIONS ARE IN INCHES.
 - 4.9.3 TOLERANCES: DECIMALS ± 0.010 , ANGLES $\pm 5^\circ$ UNLESS OTHERWISE SPECIFIED.
 - 4.10 INSTALLATION:
 - 4.10.1 WHEN INSTALLED INTO PROPERLY PREPARED HOLES USING PROPER TOOLING, THE SLEEVE SHALL BE CAPABLE OF FLARING SMOOTHLY WITH NO VISUAL EVIDENCE OF CRACKING OR SPLITTING.
 - 4.10.2 FOR INSTALLATION ON MATERIALS HARDER THAN Rb93 (SUCH AS CORROSION RESISTANT STEEL OR NICKEL ALLOYS), THE INSTALLATION HOLE SHALL BE PREBROACHED WITH THE APPROPRIATE LOBE PATTERN.

REVISED
APPROVED 13 MAR 84

P.A. NAVY - AS Other Cust	TITLE	MILITARY STANDARD
	NUT, FLOATING, SELF LOCKING, ATTACHED RETENTION ELEMENT (A.R.E.), 4500F, CRES (A-286), 125 KSI Ftu, REPLACEABLE NUT ELEMENT.	MS 14210(AS)
PROCUREMENT SPECIFICATION MIL-N-25027	SUPERSEDES:	SHEET 1 OF 4

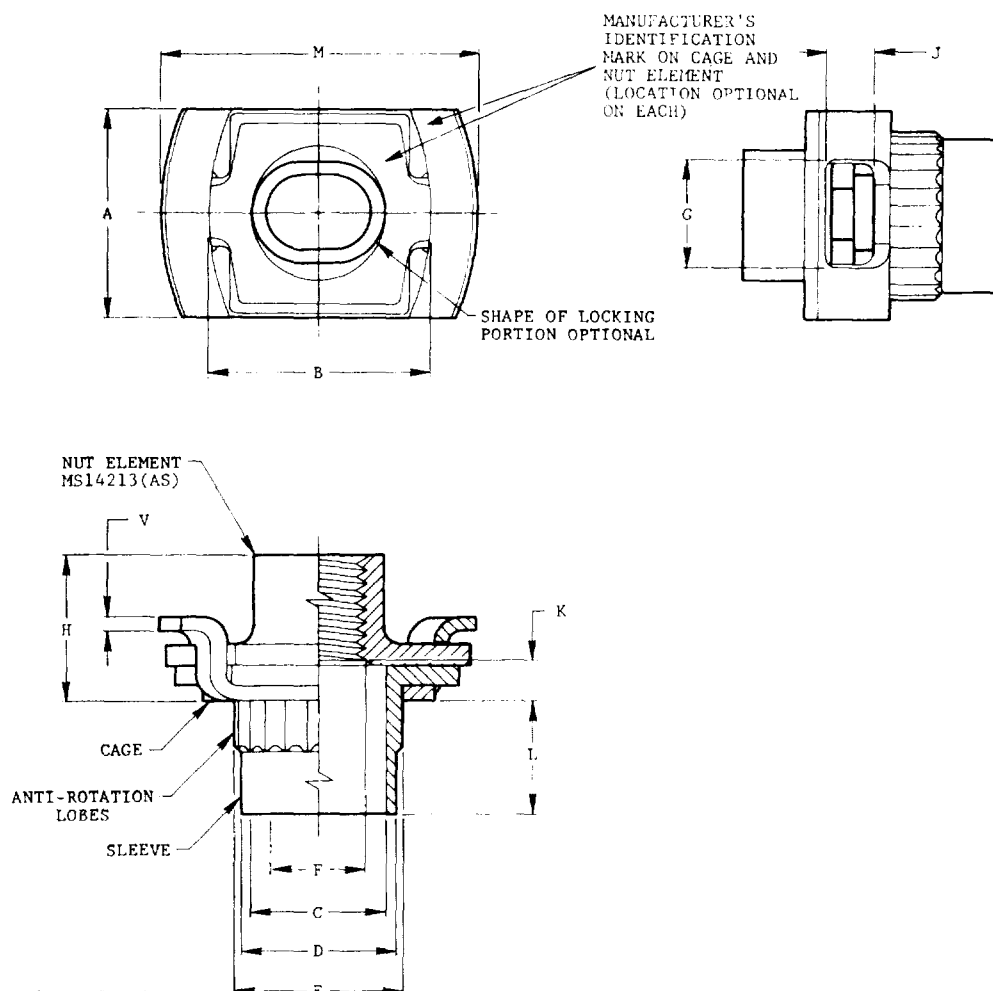
DD FORM 672-1 (Limited coordination)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE. PROJECT NO. 5310-N037

PLATE NO. 17709

This standard has been approved by the NAVAL AIR SYSTEMS COMMAND Department of the NAVY and is mandatory for use by that activity. All other military activities are required to employ this standard where suitable.

5. ILLUSTRATION:

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6. TABLE I

SIZE DASH NO. (a)	THREAD SIZE MIL-S-8879	A MAX.	B +.010	C DIA. MIN.	F DIA. MIN.	E DIA. MIN. MAX.	D DIA. MAX.	G +.010	H MAX.	J +.010	K REF. (b)	M MAX.	V +.010 -.000	AXIAL STRENGTH LB. MIN.
04	.1120-40 UNJC-3B	.310	.318	.182	.116	.228 .234	.217	.155	.214	.064	.062	.435	.020	750
06	.1380-32 UNJC-3B	.310	.318	.182	.142	.228 .234	.217	.155	.214	.064	.062	.435	.020	1130
08	.1640-32 UNJC-3B	.405	.425	.235	.168	.304 .304	.270	.187	.270	.075	.068	.587	.025	1720
3	.1900-32 UNJF-3B	.405	.425	.235	.194	.304 .304	.270	.187	.270	.075	.068	.587	.025	2460
4	.2500-28 UNJF-3B	.465	.496	.300	.254	.363 .369	.335	.198	.325	.083	.089	.665	.035	4580

- (a) ASSEMBLY DASH NUMBER IS THE SAME AS THE NUT ELEMENT SIZE DASH NUMBER.
- (b) K IS THE THREAD RELIEF, SLEEVE FLANGE AND CAGE THICKNESS

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P.A. NAVY - AS Other Cust	TITLE NUT, FLOATING, SELF LOCKING, ATTACHED RETENTION ELEMENT (A.R.E.), 450°F, CRES (A-286), 125 KSI F _{tu} , REPLACEMENT NUT ELEMENT.	MILITARY STANDARD MS 14210(AS)
PROCUREMENT SPECIFICATION MIL-N-25027	SUPERSEDES:	SHEET 2 OF 4

DD FORM 672-1 (Limited coordination)

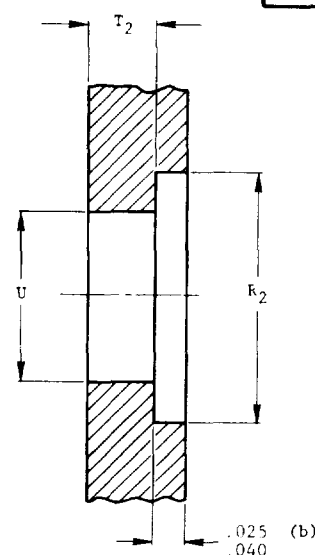
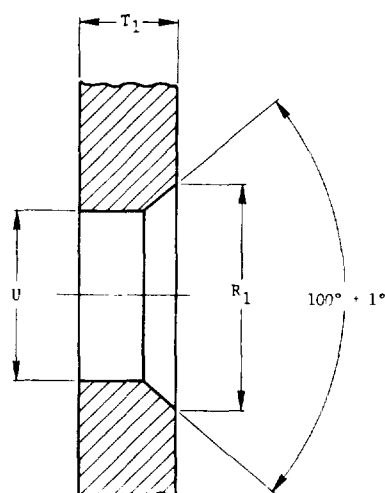
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PLATE 14210(AS)

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7. TABLE II

SIZE DASH NO.	(a) INSTALLATION HOLE LIMITS		R ₁ +.005	R ₁ +.005 (-2 grip only)	R ₂ +.020 -.005	Weight lb/100
	MAX.	MIN.				
L04	.222	.217	.307	.275	.312	.131
L06	.222	.217	.307	.275	.312	.140
L08	.285	.280	.370	.343	.375	.365
L3(c)	.285	.280	.370	.343	.375	.370
L4(c)	.352	.347	.437	N/A	.515	.682

8. TABLE III

GRIP DASH NO.	T ₁ GRIP THICKNESS (COUNTERSINK)	T ₂ GRIP THICKNESS (COUNTERBORE)	L LENGTH
2 (c)	.055 - .073 (c)	N/A	.073
4	.074 - .106	.031 - .062 (c)	.099
6	.107 - .133	.063 - .094	.130
8	.134 - .165	.095 - .125	.161
10	.166 - .196	.126 - .156	.192
12	.197 - .227	.157 - .187	.223
14	.228 - .258	.188 - .218	.254
16	.259 - .289	.219 - .250	.285
18	.290 - .320	.251 - .281	.316
20	.321 - .351	.282 - .312	.347
22	.352 - .382	.313 - .343	.378
24	.383 - .413	.344 - .374	.409
26	.414 - .444	.375 - .405	.440
28	.445 - .475	.406 - .436	.471
30	.476 - .506	.437 - .467	.502

(a) INSTALLATION MAXIMUM AND MINIMUM HOLE LIMITS CAN BE REDUCED BY 0.009-INCH FOR SIZE DASH NOS. 08, 3 AND 4 WHEN INSTALLING IN SOFT MATERIALS, INCLUDING ALUMINUM ALLOYS WITH HARDNESS NOT EXCEEDING BHN 110 OR ROCKWELL B70.

(b) COUNTERBORE IS OPTIONAL: TO BE USED IN APPLICATIONS REQUIRING SURFACE FLUSHNESS. FOR THE MINIMUM GRIP THICKNESS OF EACH GRIP DASH NO., COUNTERBORE CAN BE INCREASED TO 0.030 TO ENSURE ROLLOVER FLUSHNESS.

(c) NUT OF SIZE DASH NO. 4 SHALL NOT BE INSTALLED IN A PANEL OF GRIP THICKNESS LESS THAN 0.060-INCH. NUTS OF SIZE DASH NO. 3 CAN BE INSTALLED IN GRIP THICKNESSES LESS THAN 0.060 PROVIDED THAT THE INSTALLATION HOLE LIMITS ARE 0.276 - 0.281.

(d) TO OBTAIN WEIGHTS FOR DIFFERENT GRIP DASH NOS., ADD INCREMENTS OF 0.010-LB FOR SIZES 04 AND 06 AND 0.020-LB FOR SIZES 08, 3 AND 4.

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P.A.
NAVY-AS
Other Cust

TITLE

NUT, FLOATING, SELF LOCKING, ATTACHED RETENTION ELEMENT (A.R.E.), 450°F, CRES (A-286), 125 KSI F_{tu}, REPLACEABLE NUT ELEMENT.

PROCUREMENT SPECIFICATION
MIL-N-25027

SUPERSEDES:

MILITARY STANDARD

MS 14210(AS)

SHEET 3 OF 4

APPROVED 13 MAR 84 REVISED

FED. SUP CLASS
53109. PART NUMBER EXAMPLE:

MS14210(AS) - L08 - 6

GRIP DASH NUMBER
(SEE TABLE III)

SIZE DASH NUMBER
(SEE TABLE I)

MILITARY STANDARD NUMBER

10. ADMINISTRATIVE AND CONTRACTUAL PROVISION:

- 10.1 FOR DESIGN FEATURE PURPOSES, THIS STANDARD TAKES PRECEDENCE OVER PROCUREMENT DOCUMENTS REFERENCED HEREIN.
- 10.2 REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BIDS, OR REQUEST FOR PROPOSAL, EXCEPT THAT REFERENCED ADOPTED INDUSTRY DOCUMENTS SHALL GIVE THE DATE OF THE ISSUE ADOPTED.
- 10.3 THE A.R.E. NUTS WITHOUT MANUFACTURER'S IDENTIFICATION MAY BE FURNISHED FROM MANUFACTURER'S STOCK UNTIL 31 DECEMBER 1985
- 10.4 THE A.R.E. NUT ASSEMBLIES IDENTIFIED HEREIN ARE PROPRIETARY PRODUCTS OF DEUTSCH FASTENER CORPORATION AND ARE COVERED BY THE FOLLOWING PATENTS: U.S. 3,695,324 (EXPIRING OCTOBER 3, 1989); 3,765,078 (EXPIRING OCTOBER 6, 1990); FRANCE 72,11463 (EXPIRING APRIL 13, 1990); GERMANY 22 17 490 (EXPIRING MARCH 31, 1992). THE GOVERNMENT DOES NOT HAVE A ROYALTY FREE LICENSE.

APPROVED 13 MAR 84 REVISED

P.A. NAVY - AS Other Cust	TITLE NUT, FLOATING, SELF LOCKING, ATTACHED RETENTION ELEMENT (A.R.E.), 450°F, CRES (A-286), 125 KSI F _{tu} , REPLACEABLE NUT ELEMENT.	MILITARY STANDARD MS 14210(AS)
PROCUREMENT SPECIFICATION MIL- N-25027	SUPERSEDES:	SHEET 4 OF 4

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