

THE REQUIREMENTS FOR ACQUIRING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DODDS SPECIFIED IN THE SOLICITATION: MIL-N-25027

THIS SPECIFICATION IS APPROVED FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE.

Form Approved
OMB No. 0704-0185

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. OVERSIZE NUTS: MS14211 OVERSIZE NUTS MAY BE USED AS REPLACEMENT FOR MS14210 NUTS.
4. REPLACEMENT NUT ELEMENT: MS14213(AS)
5. GENERAL REQUIREMENTS:
 - 5.1 PERFORMANCE PER MIL-N-25027 :

INSTALLATION HOLES SHALL BE PER TABLE B, PANEL GGP THICKNESS PER TABLE D.
 - 5.2 MATERIAL:
 - (A) 5.2.1 NUT ELEMENT: CORROSION RESISTANT STEEL PER AMS 5525, AMS 5732 OR AMS 5737 (ASTM A-286)
 - 5.2.2 SLEEVE: CRES AISI 304 (UNS S30400) PER AMS 5632 OR AISI 305 (UNS S30500) PER AMS 5514
 - 5.2.3 CAGE: CORROSION RESISTANT STEEL PER AMS 5528 (17-7 PH)
 - 5.3 HEAT TREAT
 - 5.3.1 NUT ELEMENT: 180 KSI MCH
 - 5.3.2 CAGE: 180 KSI MCH
 - 5.4 FINISH:
 - 5.4.1 SLEEVE AND CAGE SHALL BE PASSNATED PER QQ-P-35, TYPE D.
 - 5.5 LUBRICANT:
 - (A) 5.5.1 NUT ELEMENT SHALL BE DRY FILM LUBRICATED PER MIL-L-46010, TYPE I.
 - 5.6 SURFACE TEXTURE:
 - (A) 5.6.1 SURFACE TEXTURE IN ACCORDANCE WITH AMS/ASME B46.1. UNLESS OTHERWISE SPECIFIED, THE SURFACE ROUGHNESS SHALL NOT EXCEED 125 MICRO INCHES.
 - 5.7 NUT FLOAT:
 - 5.7.1 MAXIMUM RADIAL FLOAT 0.020 INCH. THE NUT ELEMENT 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 CAGE WITH THE PROPER REMOVAL TOOL AND A NEW NUT PER MS14213(AS) SHALL BE CAPABLE OF BEING SNAPPED IN PLACE IN THE CAGE.
 - 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 MS14213(AS) AND THEN THE NUT SHALL MEET THE TORQUE OUT AND PUSH-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 $\pm 9^\circ$ UNLESS OTHERWISE SPECIFIED.
 - 5.10 INSTALLATION:
 - 5.10.1 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.
 - 5.10.2 FOR INSTALLATIONS ON MATERIALS HARDER THAN R503 SUCH AS CORROSION RESISTANT STEEL OR NICKEL ALLOYS, THE INSTALLATION HOLE MUST BE PRE-BROACHED WITH THE APPROPRIATE LOBE PATTERN.

(A) DENOTES CHANGE(S)

INCH-POUND

PREPARING ACTIVITY: DLA-PS

CUSTODIANS: ARMY-

NAVY- AS

AIR FORCE-

DLA-

REVIEW:
USER:

PROJECT NUMBER: 5310-2008

DISTRIBUTION STATEMENT

MILITARY SPECIFICATION SHEET

TITLE

NUT, FLOATING, SELF LOCKING, ATTACHED RETENTION
ELEMENT (A.R.E.), 450FF, CRES (ASTM A-286),
KSI PH, REPLACEABLE NUT ELEMENT,
1/84 OVERSIZE REPAIR

SPECIFICATION SHEET NUMBER

MS14211

30 SEPT 94
REV A

SUPERSEDED

MS14211 13 MAR 84

AWSC- N/A

FSC 5310

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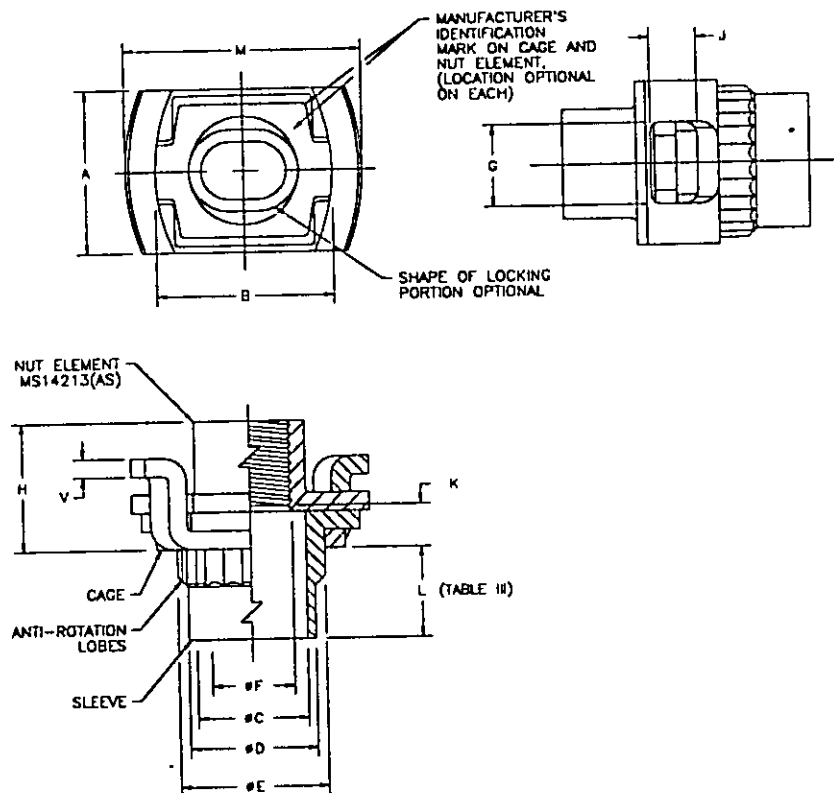
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6. ILLUSTRATION:



7. TABLE I

SIZE DASH NO. (a)	THREAD SIZE MIL-S-8879	A MAX	B ±.010	#C MIN	#D MAX	#E		#F MIN	C ±.010	H MAX	J ±.010	K REF (b)	M MAX	V +.010 -.000	AXIAL STRENGTH LBS. MIN.
						MIN	MAX								
L04	.1120-40 UNJC-3B	.310	.318	.182	.217	.244	.250	.118	.155	.214	.064	.052	.435	.020	750
L06	.1380-32 UNJC-3B	.310	.318	.182	.217	.244	.250	.142	.155	.214	.064	.062	.435	.020	1130
L08	.1640-32 UNJC-3B	.405	.425	.235	.270	.309	.315	.168	.187	.270	.075	.068	.587	.025	1720
L3	.1900-32 UNJF-3B	.405	.425	.235	.270	.309	.315	.194	.187	.270	.075	.068	.587	.025	2460
L4	.2500-2B UNJF-3B	.465	.496	.300	.335	.375	.381	.254	.198	.325	.083	.089	.665	.035	4580

- (a) ASSEMBLY DASH NO. IS THE SAME AS THE NUT ELEMENT SIZE DASH NO.
(b) K IS THE THREAD RELIEF, SLEEVE FLANGE AND CAGE THICKNESS.

PREPARING ACTIVITY: DLA-IS
CUSTODIANS: ARMY- NAVY- AS

AIR FORCE- DLA-

REVIEW:
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MILITARY SPECIFICATION SHEET

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NUT, FLOATING, SELF LOCKING, ATTACHED RETENTION
ELEMENT (A.R.E.), 450°F, CRES (ASTM A-286),
125 KSI F_{tu}, REPLACEABLE NUT ELEMENT,
1/84 OVERSIZE REPAIR

SPECIFICATION SHEET NUMBER

MS14211

30 SEPT 84
REV A

SUPERSEDING

MS14211 13 MAR 84

AMSC- N/A

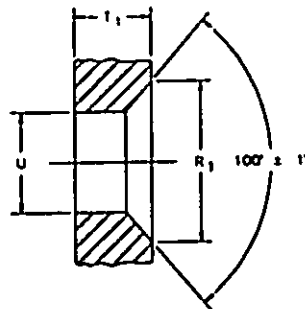
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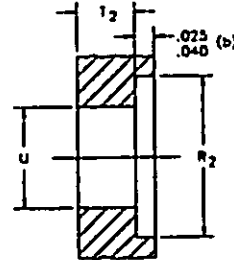
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8. TABLE 8

SIZE DASH NO.	(e) INSTALLATION HOLE LIMITS		R ₁ +.005	R ₁ +.005 (-2 GRP) ONLY	R ₂ +.070 -.000	WEIGHT LBS/100
	U					
	MAX	MIN				
LO4	.238	.233	.307	.275	.312	.131
LO6	.238	.233	.307	.275	.312	.140
LO8	.300	.295	.370	.343	.375	.365
L3 (e)	.300	.295	.370	.343	.375	.370
L4 (e)	.367	.362	.437	N/A	.515	.682



9. TABLE 9

GRP DASH NUMBER	T ₁ GRP THICKNESS (COUNTERSINK)	T ₂ GRP THICKNESS (COUNTERSINK)	L LENGTH
	(e)	(c)	
2 (c)	.055-.073 (e)	N/A	.073
4	.074-.108	.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

10. PART NUMBER EXAMPLE:

MS14211 - L03 - 8 = .1840 UNIC-38, NUT,
FLOATING, SELF LOCKING,
CRCS, 125 KSI, 450°F,
DRY FILM LUBRICATION.

MS14211 — GRP DASH NUMBER
(SEE TABLE 8)

L03 — SIZE DASH NUMBER
(SEE TABLE 9)

8 — MILITARY SPECIFICATION SHEET NUMBER

- (e) 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 BHN 110 OR ROCKWELL B70.
- (b) COUNTERBORE IS OPTIONAL: TO BE USED IN APPLICATIONS REQUIRING SURFACE FLUSHNESS. FOR THE MINIMUM GRP THICKNESS OF EACH GRP DASH NO., COUNTERBORE CAN BE INCREASED TO .030 TO INSURE ROLLER FLUSHNESS.
- (c) NUT OF SIZE DASH NO. 4 SHALL NOT BE INSTALLED IN PANEL OF GRP THICKNESS LESS THAN .060 INCH. NUTS OF SIZE DASH NO. 3 CAN BE INSTALLED IN GRP THICKNESSES LESS THAN .060 PROVIDED THAT THE INSTALLATION HOLE LIMITS ARE .291-.296.
- (d) TO OBTAIN WEIGHTS FOR DIFFERENT GRP DASH NOS., ADD INCREMENTS OF .010 LB. FOR SIZES 04 AND 06 ADD .020 LB. FOR SIZES 08, 3 AND 4.

11. ADMINISTRATIVE AND CONTRACTUAL PROVISIONS:

- (A) 11.1 IN THE EVENT OF A CONFLICT BETWEEN THE TEXT OF THIS DOCUMENT AND THE REFERENCES CITED HEREIN, THE TEXT OF THIS DOCUMENT SHALL TAKE PRECEDENCE.
- (A) 11.2 UNLESS OTHERWISE SPECIFIED, ISSUES OF REFERENCED DOCUMENTS ARE THOSE IN EFFECT AT THE TIME OF SOLICITATION.
- 11.3 A.R.E. NUTS WITHOUT MANUFACTURER'S IDENTIFICATION MAY BE FURNISHED FROM MANUFACTURER'S STOCK UNTIL DECEMBER 31, 1985.
- 11.4 THE A.R.E. NUT ASSEMBLIES IDENTIFIED HEREIN ARE PROPRIETARY PRODUCTS OF DEUTSCH FASTENER CORPORATION AND ARE COVERED BY THE FOLLOWING PATENTS: U.S. 3,895,324 (EXPIRING OCTOBER 3, 1989); 3,785,078 (EXPIRING OCTOBER 6, 1990); FRANCE 72,11483 (EXPIRING APRIL 13, 1990); GERMANY 22 17 490 (EXPIRING MARCH 31, 1992). THE GOVERNMENT DOES NOT HAVE A ROYALTY FREE LICENSE.

PREPARING ACTIVITY: DLA-15

CUSTOMERS: ARMY-

NAVY- AS

AIR FORCE-

DLA-

REVIEW:

USER:

PROJECT NUMBER: 5310-2008

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1/64 OVERSIZE REPAIR

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