

REQUIREMENTS FOR ACQUIRING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THE SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DODS, 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  
DWB No 0704-0188

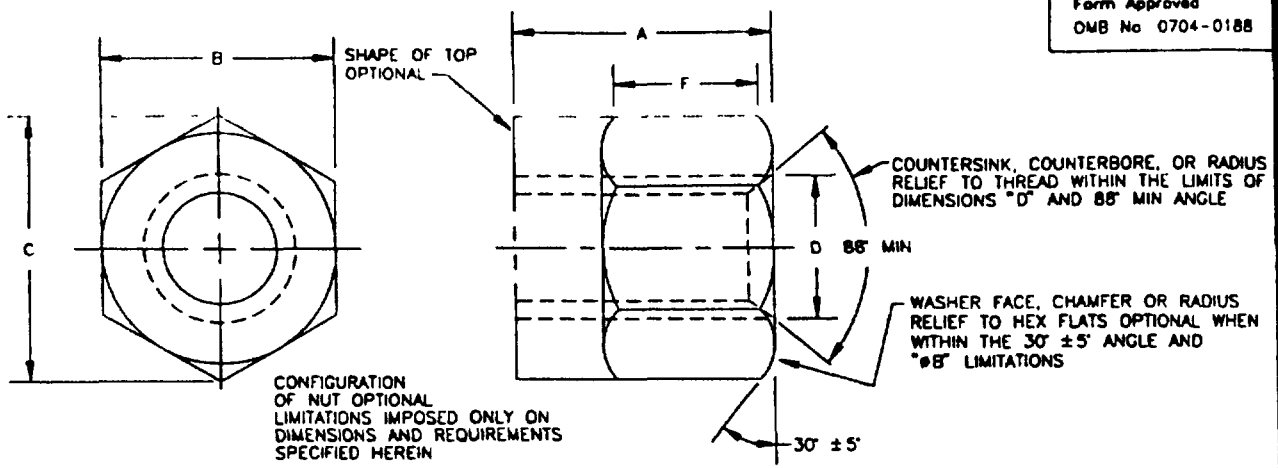


TABLE 1 DIMENSIONS

DASH NUMBERS				THREAD MIL-S-8879	A		(b) B		C	D	F	(c) BEARING SURFACE SQUARENESS
NON-METALLIC INSERT					MAX	MIN	MAX	MIN	MIN	± .020	MIN	
AL ALLOY	STEEL	BRASS	CRES									
(H) D02	N02	B02	C02	0860-56UNJC-3B	.153	.133	.251	.243	.268	.106	.044	.004
D04	N04	B04	C04	1120-40UNJC-3B	.157	.133	.251	.243	.268	.136	.044	.004
D06	N06	B06	C06	1380-32UNJC-3B	.188	.160	.313	.305	.339	.161	.072	.004
D08	N08	B08	C08	1640-32UNJC-3B	.281	.219	.345	.336	.374	.188	.091	.004
D3	N3	B3	C3	1900-32UNJF-3B	.281	.208	.376	.367	.410	.210	.085	.004
D4	N4	B4	C4	2500-28UNJF-3B	.360	.240	.439	.430	.482	.273	.116	.005
D5	N5	B5	C5	3125-24UNJF-3B	.360	.271	.502	.492	.552	.336	.123	.006
D6	N6	B6	C6	3750-24UNJF-3B	.469	.318	.564	.553	.622	.398	.153	.006
D7	N7	B7	C7	4375-20UNJF-3B	.469	.435	.690	.679	.766	.467	.178	.007
D8	N8	B8	C8	.5000-20UNJF-3B	.610	.575	.752	.741	.837	.531	.221	.007
D9	N9	B9	C9	5625-18UNJF-3B	.704	.623	.877	.865	.978	.594	.243	.008
D10	N10	B10	C10	.6250-18UNJF-3B	.766	.732	.940	.928	1.051	.656	.274	.008
D12	N12	B12	C12	7500-18UNJF-3B	.891	.855	1.064	1.052	1.191	.787	.316	.009
D14	N14	B14	C14	8750-14UNJF-3B	1.016	.965	1.252	1.239	1.403	.918	.570	.010
D16	N16	B16	C16	1.0000-12UNJF-3B	1.141	1.010	1.440	1.427	1.615	1.044	.635	.011
D18	N18	B18	C18	1.1250-12UNJF-3B	1.266	1.130	1.627	1.614	1.826	1.171	.710	.012
D20	N20	B20	C20	1.2500-12UNJF-3B	1.454	1.300	1.815	1.801	2.038	1.295	.795	.013

(c) BEARING SURFACE SHALL BE SQUARE WITH PITCH DIAMETER WHEN MEASURED IN ACCORDANCE WITH MIL-N-25027  
(b) DIMENSION ACROSS FLATS INCLUDE DEFORMATION OF SELF-LOCKING DEVICE

REQUIREMENTS

- 1 MATERIAL (H) STEEL GRADES
  - 1006 (UNS G10060) PER ASTM A29, ASTM A510 OR ASTM A853
  - 1008 (UNS G10080) PER ASTM A29, ASTM A510 OR ASTM A853
  - 1009 (UNS G10090) PER SAE J118
  - 1010 (UNS G10100) PER AMS 5040, ASTM A29, ASTM A510 OR ASTM A853
  - 1015 (UNS G10150) PER AMS 5080, ASTM A29, ASTM A510 OR ASTM A853
  - 1018 (UNS G10180) PER AMS 5089, ASTM A29, ASTM A510 OR ASTM A853
  - 1035 (UNS G10350) PER AMS 5080, ASTM A29, ASTM A510 OR ASTM A853
  - 1137 (UNS G11370) PER AMS 5024 OR ASTM A29
  - 11L37 (UNS G11374) PER AMS 5020
  - 1213 (UNS G12130) PER SAE J403 OR ASTM A29
  - 12L14 (UNS G12144) PER SAE J403
  - 15821H (UNS M15211) PER AISI 15821H OR SAE J1268
- (H) CRES. TYPE
  - 302 (UNS S30200) PER AMS 5688, 303 (UNS S30300) PER AMS 5640, ASTM A581, OR ASTM A582
  - 304 (UNS S30400) PER AMS 5647, 304L (UNS S30430) PER ASTM A493, (UNS S30452) PER ASTM A276
- ALUMINUM ALLOY
  - 2014-T6 (UNS A92014) PER QQ-A-200/2
  - 2017-T4 (UNS A92017) PER QQ-A-225/5
  - 2024-T6 (UNS A92024) PER QQ-A-225/6
  - 7075-T6 (UNS A97075) PER QQ-A-200/11
- (H) BRASS CA 360 (UNS C36000), 1/2 HARD OR CA 260 (UNS C26000) PER ASTM B36, ASTM B121, ASTM A829, OR AMS 6410
- (H) NON-METALLIC INSERT - NYLON PER ASTM D4066, GROUP 1, CLASS 1 OR 2

(H) DENOTES CHANGE(S)

INCH-POUND

PREPARING ACTIVITY DLA-IS	MILITARY SPECIFICATION SHEET	SPECIFICATION SHEET NUMBER
CUSTODIANS ARMY- AR NAVY- AS	TITLE	MS21044 21 SEP 93
AIR FORCE- 99 DIA	NUT SELF-LOCKING, HEXAGON REGULAR	REV H
REVIEW AS AV OF, MI, SH B	HEIGHT 250F 125 KSI F <sub>U</sub> AND 60 KSI F <sub>U</sub>	SUPERSEDED MS21044 G 20 APR 93
USER CI		AMSC- N/A FSC 5310
PROJECT NUMBER 5310 1936		
DISTRIBUTION STATEMENT		

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 DODISS SPECIFIED IN THE SOLICITATION MIL-N-25027

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

- 2 PROTECTIVE COATING, STEEL AND BRASS NUTS - CADMIUM PLATED IN ACCORDANCE WITH QQ-P-416 TYPE II CLASS 2  
 (H) CORROSION-RESISTANT STEEL NUTS - PASSIVATE IN ACCORDANCE WITH QQ-P-35  
 ALUMINUM ALLOY NUTS - ANODIZE OR CHEMICALLY SURFACE TREAT IN ACCORDANCE WITH PROCUREMENT SPECIFICATION  
 ALUMINUM ALLOY NUTS - IN SIZES THRU 0 2500-28 DYED BLUE PER PROCUREMENT SPECIFICATION
- 3 LUBRICANT, LUBRICANT APPROVED IN ACCORDANCE WITH MIL-N-25027, LUBRICANT SHALL BE SOLUBLE IN THE CLEANER SPECIFIED IN THE PROCUREMENT SPECIFICATION
- 4 MAGNETIC PERMEABILITY, MAGNETIC PERMEABILITY OF CORROSION-RESISTANT STEEL NUTS SHALL BE LESS THAN 2.0 (AIR=1.0) FOR A FIELD STRENGTH H = 200 OERSTEDS WHEN TESTED IN ACCORDANCE WITH ASTM A342 METHOD 6  
 (H)
- 5 SURFACE ROUGHNESS, SURFACE ROUGHNESS IN ACCORDANCE WITH ANSI/ASME B46.1 UNLESS OTHERWISE SPECIFIED, SURFACES SHALL NOT EXCEED 125 MICROINCHES
- 6 VIBRATION LIFE, MINIMUM VIBRATION LIFE REQUIREMENT FOR NON-METALLIC INSERT PARTS SHALL BE THREE TIMES AVERAGE VIBRATION LIFE LISTED IN MIL-N-25027
- 7 PART NUMBER, THE PART NUMBER SHALL CONSIST OF THE BASIC MS NUMBER FOLLOWED BY A DASH NUMBER FROM TABLE I

EXAMPLE OF PART NUMBERS

- MS21044N4 = 2500-28 STEEL NUT NON-METALLIC INSERT, CADMIUM PLATED
- MS21044D4 = 2500-28 ALUMINUM ALLOY NUT, NON-METALLIC INSERT, ANODIZED
- MS21044B4 = 2500-28 BRASS NUT, NON-METALLIC INSERT, CADMIUM PLATED
- MS21044C4 = 2500-28 CRES NUT, NON-METALLIC INSERT PASSIVATED

TABLE II PERFORMANCE CHARACTERISTICS

THREAD MIL-S-8879	AXIAL STRENGTH (LB/MIN)			WEIGHT, LB/100 REF		
	STEEL	AL ALLOY	CRES	AL ALLOY	STEEL	BRASS
0860-56UNJC-3B	440	220	440	06	15	16
1120-40UNJC-3B	750	750	750	06	15	16
1380-32UNJC-3B	1,130	1,130	1,130	11	30	32
1640-32UNJC-3B	1,720	1,720	1,720	18	50	54
1900-32UNJF-3B	2,460	2,460	2,460	.21	58	.63
2500-28UNJF-3B	4,580	4,580	4,580	36	99	110
3125-24UNJF-3B	7,390	3,670	7,390	50	140	150
3750-24UNJF-3B	11,450	5,680	11,450	78	215	230
4375-20UNJF-3B	15,450	7,660	15,450	120	340	370
5000-20UNJF-3B	21,110	10,470	21,110	170	470	510
5625-18UNJF-3B	26,810	13,330	26,810	280	780	850
6250-18UNJF-3B	34,130	16,930	34,130	340	850	1030
7500-16UNJF-3B	50,020	24,810	50,020	500	1360	1500
8750-14UNJF-3B	68,440	33,950	68,440	780	2100	2300
10000-12UNJF-3B	92,180	45,720	92,180	1100	3100	3300
11250-12UNJF-3B	116,700	57,880	116,700	1700	4800	5000
12500-12UNJF-3B	147,940	73,380	147,940	2400	6500	7000

NOTES.

- 1 BREAK ALL SHARP EDGES AND REMOVE ALL BURRS AND SLIVERS
- 2 DIMENSIONS ARE IN INCHES.
- 3 DESIGN AND USAGE LIMITATIONS THESE NUTS ARE DESIGNED TO DEVELOP THE TENSILE STRENGTH OF BOLTS AND SCREWS WITH AN ULTIMATE STRESS (F<sub>tu</sub>) OF 125 KSI (60 KSI FOR ALUMINUM PARTS) BASED ON THE CROSS-SECTIONAL AREA AT THE BASIC ROOT DIAMETER OF THE THREAD THESE NUTS ARE DESIGNED TO BE USED ON 3A EXTERNAL THREADS PER MIL-S-8879 THESE NUTS SHALL BE USED IN ACCORDANCE WITH THE LIMITATIONS OF MS33588
- 4 INTERCHANGEABILITY RELATIONSHIPS (STATUS NOTE) MS21044 NUTS CAN UNIVERSALLY REPLACE AN365, MS20365 AND NAS1021 NUTS OF LIKE MATERIAL PLATING AND THREAD SIZE, EXCEPT FOR AN365 AND MS20365 7/16-20 NUTS NON-METALLIC INSERT LOCKING DESIGNS CAN BE SUBSTITUTED FOR THE INACTIVATED BRASS OR ALUMINUM ALLOY ALL-METAL LOCKING DESIGN NUTS AN365, MS20365 AND NAS1021 NUTS CANNOT UNIVERSALLY REPLACE THE MS21044 NUTS FOR DEFINITION AND APPLICATION OF DRAWING STATUS NOTES SEE MIL-STD-962
- 5 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
- 6 REFERENCED GOVERNMENT (OR NON-GOVERNMENT) DOCUMENTS OF THE ISSUE LISTED IN THAT ISSUE OF THE DEPARTMENT OF DEFENSE INDEX OF SPECIFICATIONS AND STANDARDS (DODISS) SPECIFIED IN THE SOLICITATION FORM A PART OF THIS STANDARD TO THE EXTENT SPECIFIED HEREIN
- 7 BIDS SHALL BE SOLICITED ONLY FROM THE MANUFACTURERS OR DISTRIBUTORS LISTED ON OPL-25027

PREPARING ACTMITY DLA-IS CUSTODIANS ARMY- AR NAVY- AS AIR FORCE 99 DIA REVIEW AS AV, CF MI, SH, 82 USER GI PROJECT NUMBER 5310-1936 DISTRIBUTION STATEMENT	MILITARY SPECIFICATION SHEET TITLE NUT SELF LOCKING, HEXAGON, REGULAR HEIGHT, 250F, 125 KSI F <sub>tu</sub> AND 60 KSI F <sub>tu</sub>	SPECIFICATION SHEET NUMBER <b>MS21044</b> 21 SEP 93 REV H SUPERSEDING MS21044 G 20 APR 93 AMSL N/A FSL 5310
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TABLE III INTERCHANGEABILITY

SEE INTERCHANGEABILITY RELATIONSHIP STATUS NOTE									
CANCELLED PART NUMBERS									SUBSTITUTE PART NUMBERS
AN365			MS20365			NAS1021		MS21044	
-440 B440 D440	-440C B440C D440C	-440A B440A D440A	-440 B440 D440	-440C B440C D440C	-440A B440A D440A	N04 B04 D04	---	---	MS21044 N04 B04 D04
-632 B632 D632	-632C B632C D632C	-632A B632A D632A	-632 B632 D632	-632C B632C D632C	-632A B632A D632A	N06 B06 D06	---	---	N06 B06 D06
-832 B832 D832	-832C B832C D832C	-832A B832A D832A	-832 B832 D832	-832C B832C D832C	-832A B832A D832A	N08 B08 D08	---	---	N08 B08 D08
-1032 B1032 D1032	-1032C B1032C D1032C	-1032A B1032A D1032A	-1032 B1032 D1032	-1032C B1032C D1032C	-1032A B1032A D1032A	N3 B3 D3	---	---	N3 B3 D3
-428 B428 D428	-428C B428C D428C	-428A B428A D428A	-428 B428 D428	-428C B428C D428C	-428A B428A D428A	N4 B4 D4	---	---	N4 B4 D4
-524 B524 D524	-524C B524C D524C	-524A B524A D524A	-524 B524 D524	-524C B524C D524C	-524A B524A D524A	N5 B5 D5	---	---	N5 B5 D5
-624 B624 D624	-624C B624C D624C	-624A B624A D624A	-624 B624 D624	-624C B624C D624C	-624A B624A D624A	N6 B6 D6	---	---	N6 B6 D6
-720 B720 D720	-720C B720C D720C	-720A B720A D720A	-720 B720 D720	-720C B720C D720C	-720A B720A D720A	N7 B7 D7	---	---	N7 B7 D7
-820 B820 D820	-820C B820C D820C	-820A B820A D820A	-820 B820 D820	-820C B820C D820C	-820A B820A D820A	N8 B8 D8	---	---	N8 B8 D8
-918 B918 D918	-918C B918C D918C	-918A B918A D918A	-918 B918 D918	-918C B918C D918C	-918A B918A D918A	N9 B9 D9	---	---	N9 B9 D9
-1018 B1018 D1018	-1018C B1018C D1018C	-1018A B1018A D1018A	-1018 B1018 D1018	-1018C B1018C D1018C	-1018A B1018A D1018A	N10 B10 D10	---	---	N10 B10 D10
-1216 B1216 D1216	-1216C B1216C D1216C	-1216A B1216A D1216A	-1216 B1216 D1216	-1216C B1216C D1216C	-1216A B1216A D1216A	N12 B12 D12	---	---	N12 B12 D12
-1414 B1414 D1414	-1414C B1414C D1414C	-1414A B1414A D1414A	-1414 B1414 D1414	-1414C B1414C D1414C	-1414A B1414A D1414A	N14 B14 D14	---	---	MS21044 N14 B14 D14
-1614 B1614 D1614	-1614C B1614C D1614C	-1614A B1614A D1614A	-1614 B1614 D1614	-1614C B1614C D1614C	-1614A B1614A D1614A	---	E17 H17	---	NAS1021 N17 B17 D17
---	---	---	---	---	---	N16 B16 D16	---	---	MS21044 N16 B16 D16
-1812 B1812 D1812	-1812C B1812C D1812C	-1812A B1812A D1812A	-1812 B1812 D1812	-1812C B1812C D1812C	-1812A B1812A D1812A	N18 B18 D18	---	---	N18 B18 D18
-2012 B2012 D2012	-2012C B2012C D2012C	-2012A B2012A D2012A	-2012 B2012 D2012	-2012C B2012C D2012C	-2012A B2012A D2012A	N20 B20 D20	---	---	MS21044 N20 B20 D20

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PREPARING ACTIVITY DLA-IS CUSTODIANS ARMY-AR NAVY-AS AIR FORCE-99 DIA- REVIEW AS, AV, CF, MI, SH, 82 USER CL PROJECT NUMBER 5310-1936 DISTRIBUTION STATEMENT	MILITARY SPECIFICATION SHEET TITLE NUT, SELF-LOCKING HEXAGON, REGULAR, HEIGHT, 250F, 125 KSI Flw AND 60 KSI Flw	SPECIFICATION SHEET NUMBER <b>MS21044</b> 21 SEP 93 REV H SUPERSEDING MS21044 G 20 APR 93 AMSC N/A FSC 5310
A Approved for public release distribution is unlimited		Page 3 of 3