

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 DODSS 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. 0704-0188

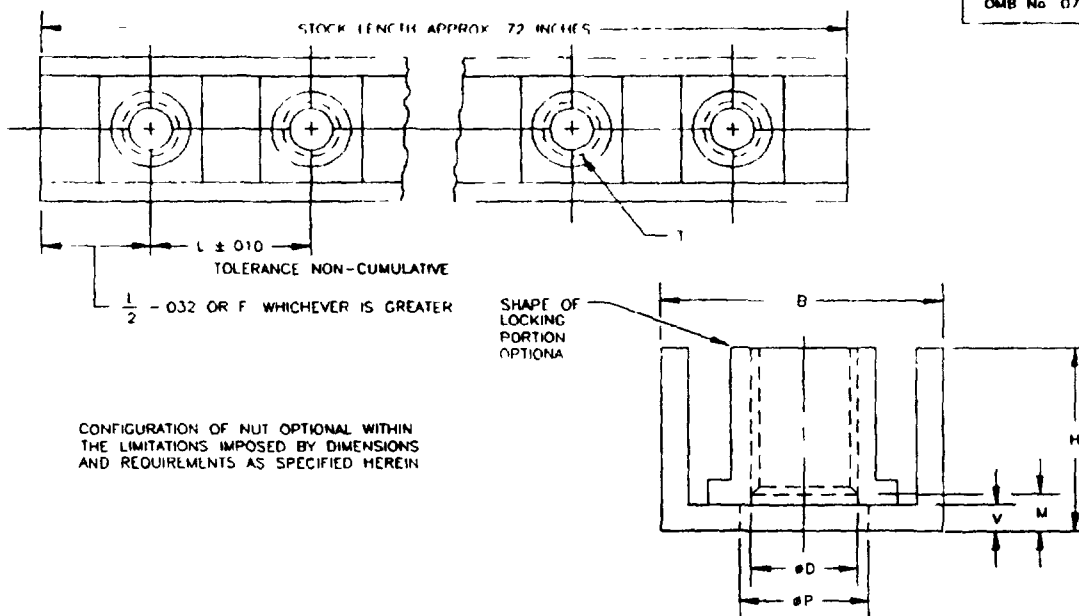


TABLE I DASH NUMBERS AND DIMENSIONS

FIRST DASH NUMBERS		T THREAD SIZES	B MAX	#D MIN	F MIN	1/ H MAX	L MIN SPACING AVAILABLE	M MIN	2/ #P		V MAX	AXIAL STRENGTH LBS/MIN	WEIGHT	
NON-DRY FILM LUBRICANT	DRY FILM LUBRICANT								MAX	MIN			NUT ELEMENTS LBS/100	CHANNEL LBS/INCH
-0R	L08	164-32 UNJC-3B	416	168	343	250	625	062	270	184	035	1 720	19	0071
-3	L3	190-32 UNJF-3B	416	194	343	250	625	062	270	210	035	2 460	20	0071
-4	L4	250-28 UNJF-3B	516	254	406	281	750	062	330	270	045	4 580	43	0084
-5	L5	3125-24 UNJF-3B	609	317	469	328	875	062	393	333	045	7 390	64	0146
-6	L6	375-24 UNJF-3B	726	379	562	344	1 000	062	455	395	055	11 450	108	0186

- 1/ "H" MAX APPLIES TO NUT ELEMENT AND CHANNEL MIN "H" NOT SPECIFIED LIMITED ONLY BY STRENGTH REQUIREMENTS OF SPECIFICATION  
2/ HOLE IN CHANNEL MUST PROVIDE FOR FULL FLOAT OF NUT ELEMENT BUT NEED NOT BE CIRCULAR

TABLE II DASH NUMBERS AND DIMENSIONS

SECOND DASH NUMBER	L NUT ELEMENT SPACING	MAXIMUM NUMBER OF NUT ELEMENTS
-5	625	115
-6	750	96
-7	875	82
-8	1 000	72
-9	1 125	64
-10	1 250	57
-11	1 375	52
-12	1 500	48
-13	1 625	44
-14	1 750	41
-15	1 875	38
-16	2 000	36
-18	2 250	32
-20	2 500	28
-24	3 000	24

(G) DENOTES CHANGE(S)

INCH-POUND

PREPARING ACTMITY DLA-IS CUSTODIANS ARMY- AV NAVY- AS AIR FORCE 11 DIA REVIEW CR MI PROJECT NUMBER 5310 1952		MILITARY SPECIFICATION SHEET TITLE NUT SELF LOCKING GANG CHANNEL FLOATING LOW HEIGHT STEEL, 125 KSI Flt 450°F		SPECIFICATION SHEET NUMBER <b>MS21064</b> 15 APR 94 REV G SUPERSEDING MS21064 F 30 SEP 87 (SEE NOTE 5) AMSC- N/A ISC 5310					
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## REQUIREMENTS

1. MATERIAL

NUT ELEMENT - CARBON STEEL (COMPOSITIONS 1035 (UNS G10350), 1040 (UNS G10400) AND 1045 (UNS G10450)) IN ACCORDANCE WITH ASTM A29, ASTM A827 OR QQ-S-700, 1042 (UNS G10420) IN ACCORDANCE WITH ASTM A29, ALLOY STEEL GRADES 4130 (UNS G41300), 4340 (UNS G43400) AND B740 (UNS G87400) IN ACCORDANCE WITH ASTM A29.

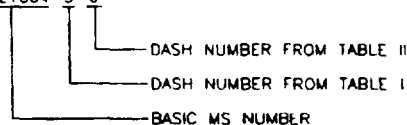
CHANNEL - CORROSION RESISTANT STEEL TYPE A286 (UNS S66286) IN ACCORDANCE WITH AMS5525, AMS5732 OR AMS5737, TYPE 321 (UNS S32100) IN ACCORDANCE WITH AMS5510.

2. LENGTH TO BE STOCKED IN 72-INCH LENGTHS ONLY.3. FINISH NUT ELEMENTS - CADMIUM PLATE IN ACCORDANCE WITH QQ-P-416 TYPE II, CLASS 2, DRY FILM LUBRICATED NUT ELEMENTS IN ACCORDANCE WITH QQ-P-416 TYPE AND CLASS ARE OPTIONAL IF THE NUT ELEMENTS WILL MEET THE SALT SPRAY REQUIREMENTS OF QQ-P-416 TYPE II.

CHANNEL - PLAIN (PASSIVATED)

4. LUBRICANT DRY FILM LUBRICANT ON NUT ELEMENT ONLY APPROVED IN ACCORDANCE WITH MIL-N-25027. NON-DRY FILM LUBRICANTS SHALL BE SOLUBLE IN THE CLEANER SPECIFIED IN MIL-S-8802.5. DIMENSIONING AND TOLERANCING DIMENSIONING AND TOLERANCING SHALL BE IN ACCORDANCE WITH ANSI Y14.5M.6. HARDNESS NUT ELEMENTS SHALL HAVE A HARDNESS OF 49HRC MAX.7. THREADS THREADS BEFORE LUBRICATION IN ACCORDANCE WITH MIL-S-8879.8. SURFACE TEXTURE SURFACE TEXTURE UNLESS OTHERWISE SPECIFIED SHALL NOT EXCEED 125 MICRONS IN ACCORDANCE WITH ANSI/ASME B46.1.9. FLOAT OF NUT ELEMENT FLOAT OF NUT ELEMENT PORTION OF ASSEMBLY SHALL NOT BE LESS THAN .030 NOR MORE THAN .040 LONGITUDINALLY AND NOT LESS THAN .010 NOR MORE THAN .030 LATERALLY FROM CENTERED POSITION. NUT ELEMENT SHALL BE CAPABLE OF ENGAGEMENT WITH A BOLT IN THE MAXIMUM MISALIGNMENT POSITION. MAXIMUM AXIAL FLOAT .020 INCH FOR -.08 AND -.3, .030 FOR LARGER SIZES.10. ASSEMBLY THE ASSEMBLY SHALL PROVIDE A BEARING SURFACE FOR THE NUT ELEMENT WITHIN THE HOUSING. THE CENTERLINE OF THE CHANNEL SHALL NOT DEVIATE FROM A STRAIGHT LINE BY MORE THAN .015 IN ANY 12 INCHES. THE NUT ELEMENT AND BASE PORTION OF THE ASSEMBLY SHALL FORM ONE INTEGRAL UNIT.11. EDGES BREAK SHARP CORNERS AND REMOVE ALL BURRS.12. CODE FIRST DASH NUMBER DESIGNATES THREAD SIZE. SECOND DASH NUMBER DESIGNATES NUT ELEMENT SPACING IN EIGHTHS OF AN INCH. THIRD DASH NUMBER INDICATES NUMBER OF NUT ELEMENTS WHEN LESS THAN STOCK LENGTH (APPROX 72 INCHES) IS DESIRED. LETTER "L" BEFORE FIRST DASH NUMBER DESIGNATES DRY FILM LUBRICATED NUT ELEMENTS.13. PART NUMBER THE PART NUMBER SHALL CONSIST OF THE BASIC MS NUMBER FOLLOWED BY A DASH NUMBER FROM TABLE I AND TABLE II AND A THIRD DASH NUMBER IF SPECIFIED (SEE REQUIREMENT 12).

EXAMPLE MS21064 3-6



MS21064-3-6 INDICATES NUT SELF-LOCKING GANG CHANNEL FLOATING LOW HEIGHT STEEL 125 KSI F<sub>tu</sub> 450° F GANG CHANNEL ASSEMBLY CONSISTING OF NINETY-SIX 190-32 UNJF-3B CADMIUM PLATED NUT ELEMENTS SPACED AT .750 INCH.

MS21064L4-7-10 INDICATES NUT SELF-LOCKING GANG CHANNEL FLOATING LOW HEIGHT STEEL 125 KSI F<sub>tu</sub> 450° F GANG CHANNEL ASSEMBLY CONSISTING OF TEN 250-28 UNJF-3B CADMIUM PLATED DRY FILM LUBRICATED NUT ELEMENTS SPACED AT .875 INCH.

PREPARING ACTIVITY DLA-IS

CUSTODIANS ARMY - AV NAVY - AS

AIR FORCE - 11 DLA -

REVIEW CR MI

PROJECT NUMBER 5310 1952

## MILITARY SPECIFICATION SHEET

TITLE

NUT, SELF-LOCKING GANG CHANNEL  
FLOATING, LOW HEIGHT, STEEL,  
125 KSI F<sub>tu</sub> 450° F

SPECIFICATION SHEET NUMBER

MS21064 15 APR 94  
REV G

SUPERSEDING

MS21064 F 30 SEP 87 (SEE NOTE 5)

AMSC -

N/A

FSC 5310

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THE REQUIREMENTS FOR ACQUIRING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN "4A" ISSUE OF THE DCS SPECIFIED IN THE SOLICITATION MIL-N-25027

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## NOTE

1. ALL DIMENSIONS ARE IN INCHES. DIMENSIONS TO BE MET PRIOR TO LUBRICATION.
2. 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.
3. 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.
4. DESIGN AND USAGE LIMITATIONS. THESE NUTS ARE DESIGNED TO DEVELOP THE TENSILE STRENGTHS OF BOLTS AND SCREWS WITH AN ULTIMATE TENSILE STRENGTH OF 125 KSI BASED ON THE CROSS SECTION AREA AT THE BASIC ROOT DIAMETER OF THE THREADS. THESE NUTS ARE DESIGNED TO BE USED ON 3A EXTERNAL THREADS. THESE NUTS SHALL BE USED IN ACCORDANCE WITH THE LIMITATIONS OF MS33588. ONLY NUTS FOR WHICH THERE ARE QUALIFIED PRODUCTS LISTED ON QPL 25027 SHALL BE USED.
5. MS21064 SUPERSEDES NAS688 THRU 692 NAS1034 THRU 1038.

INTERCHANGEABILITY RELATIONSHIP

MS21064 NUTS CAN UNIVERSALLY REPLACE NAS688 THRU NAS692 AND NAS1034 THRU NAS1038 NUTS OF LIKE THREAD SIZE LUBRICANT (DRY FILM OR NON-DRY FILM) PLATING NUT ELEMENT SPACING NUMBER OF NUT ELEMENTS AND MATERIAL BUT THESE NAS688 THRU NAS692 AND NAS1034 THRU NAS1038 NUTS CANNOT UNIVERSALLY REPLACE MS21064 NUTS.

INTERCHANGEABILITY TABLE

CANCELLED PART NUMBERS <sup>1/</sup>		SUBSTITUTIVE PART NUMBERS <sup>1/</sup>
NAS1034AX	NAS688AX	MS21064-08
NAS1035AX	NAS689AX	MS21064-3
NAS1036AX	NAS690AX	MS21064-4
NAS1037AX	NAS691AX	MS21064-5
NAS1038AX	NAS692AX	MS21064-6
NAS1034A	NAS688A	MS21064L08
NAS1035A	NAS689A	MS21064L3
NAS1036A	NAS690A	MS21064L4
NAS1037A	NAS691A	MS21064L5
NAS1038A	NAS692A	MS21064L6

- <sup>1/</sup> NUT ELEMENT SPACING DASH NUMBER IS IDENTICAL FOR BOTH CANCELLED AND CORRESPONDING SUBSTITUTIVE PART NUMBERS.

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