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CONFIGURATION OF NUT OPTIONAL WITHIN THE  
LIMITATIONS IMPOSED BY DIMENSIONS AND  
REQUIREMENTS SPECIFIED HEREIN

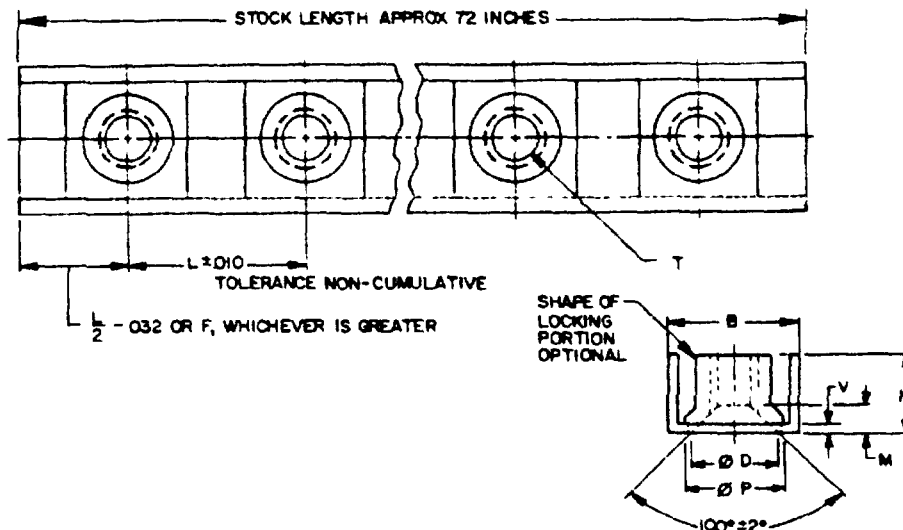


TABLE I DASH NUMBERS AND DIMENSIONS

FIRST DASH NUMBER 450° F	800° F	THREAD SIZES	B MAX	Ø D MIN	F MIN	H MAX	L MIN SPACING AVAILABLE	H REF	Ø P ±		V MIN	H MAX	AXIAL STRENGTH LBS MIN	HEIGHT	
									MIN	MAX				NUT ELEMENTS LBS .00	CHANNEL LBS .00
-0E	-0E	64-3" UNJC-3E	591	360	406	27	750	084	41	38	0.1	0.1	1,720	24	008
-1	-1	190-3L UNJF-3E	591	406	406	28	750	084	45	43	0.1	0.1	1,460	26	008
-4	-4	250-2E UNF-3E	874	509	561	14	000	107	620	560	04	04	4,360	50	0,100

"H" MIN APPLIES TO NUT ELEMENT AND CHANNEL. MIN "H" NOT SPECIFIED LIMITED ONLY BY  
STRENGTH REQUIREMENTS OF SPECIFICATION ON  
HOLE IN CHANNEL MUST PROVIDE FOR FULL FLAT IF 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

Ⓕ ENTIRE STANDARD REVISED

NAVY-AS INTERNATIONAL  
INTEREST

ARMY-AV

AIR FORCE-II

PROCUREMENT SPECIFICATION SUPPLEMENTS  
MIL-N-25027

TITLE  
NUT, SELF-LOCKING GANG CHANNEL, 100°  
CSK, FLOATING, LOW HEIGHT, CRES,  
125KSI Flu, 450° F & 800° F

MS21089, NAS 1039 THRU 1041 IN PART

MILITARY STANDARD

MS21068

PAGE 1 OF 3

APPROVED 26 MAR 64 REVISED 30 SEP 87

USER ACTIVITIES  
ARMY-CR, MI

REVIEWER ACTIVITIES  
AIR FORCE-82  
DLA-IS

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AMSC N/A

DD 672-1

5310-1539

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5310

# REQUIREMENTS

- 1 **MATERIAL:** NUT ELEMENT AND CHANNEL - CORROSION RESISTANT STEEL TYPE A286 (UNS S66286), IN ACCORDANCE WITH AMS5525, AMS5732 OR AMS5737 CHANNEL-TYPE 32. (UNS S32100), IN ACCORDANCE WITH AMS 5510
- 2 **LENGTH** SERVICES SHALL STOCK IN 72-INCH LENGTHS ONLY
- 3 **FINISH** ONLY 800° F NUTS SILVER PLATE ALL THREADED SURFACES OF NUT ELEMENT IN ACCORDANCE WITH AMS 2410 THREADS SHALL SHOW COMPLETE COVERAGE. SILVER PLATING ON ALL OTHER SURFACES OPTIONAL. TARNISHING OR DISCOLORATION OF SILVER NOT CAUSE FOR REJECTION  
CHANNEL - PLAIN (PASSIVATED)
- 4 **LUBRICANT** 450° F NUT ELEMENTS - DRY FILM LUBRICANT ON NUT ELEMENT ONLY, APPROVED IN ACCORDANCE WITH MIL-N-25027
- 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 MICROINCHES, IN ACCORDANCE WITH ANSI B46.1.
- 9 **PERFORMANCE** SEE PROCUREMENT SPECIFICATION, EXCEPT 450°F DRY FILM LUBRICATED NUTS LIMITED TO FIVE REUSE CYCLES
- 10 **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 ANG -.3, .030 FOR -.4
- 11 **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
- 12 **EDGES** BREAK SHARP CORNERS AND REMOVE ALL BURRS
- 13 **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
- 14 **PART NUMBER** THE PART NUMBER SHALL CONSIST OF THE BASIC MS NUMBER FOLLOWED BY A DASH NUMBER FROM TABLE 1 AND TABLE 11 AND A THIRD DASH NUMBER, IF SPECIFIED (SEE REQUIREMENT 13)

EXAMPLE MS21068-3-6

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  MS21068-3-6
  |
  |--- DASH NUMBER FROM TABLE 11
  |
  |--- DASH NUMBER FROM TABLE 1
  |
  |--- BASIC MS NUMBER
  
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MS21068-3-6 INDICATES NUT, SELF-LOCKING GANG CHANNEL, 100° CSK, FLOATING, LOW HEIGHT, CRES, 125 KSI Ftu, 800° F, GANG CHANNEL ASSEMBLY CONSISTING OF NINETY-SIX .190-32 UNF-3B, SILVER PLATED NUT ELEMENTS SPACED AT .750 INCH, 800° F

MS21068L4-7-10 INDICATES NUT, SELF-LOCKING GANG CHANNEL, 100° CSK, FLOATING, LOW HEIGHT, CRES, 125 KSI Ftu, 450° F, GANG CHANNEL ASSEMBLY CONSISTING OF TEN .250-28 UNF-3B, DRY FILM LUBRICATED NUT ELEMENTS, SPACED AT .875 INCH, 450° F

APPROVED 26 MAR 64 REVISED (F) FOR CHANGES SEE PAGES 1,2 AND 3

P A NAVY-AS Other Cost ARMY-AV AIR FORCE-11	INTERNATIONAL INTEREST	TITLE NUT, SELF-LOCKING GANG CHANNEL, 100° CSK, FLOATING, LOW HEIGHT, CRES, 125 KSI Ftu, 450° F & 800° F	MILITARY STANDARD
			MS21068
PROCUREMENT SPECIFICATION MIL-N-25027	SUPERSEDES MS21089, NAS 1039 THRU 1041 IN PART	PAGE 2 OF 3	

DD FORM 672-1 (COORDINATED)

PREPARED BY THE MILITARY STANDARD OFFICE

5310-1539

FED SUP CLASS  
531C

## NOTES:

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 REFERENCE 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 STRENGTH 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.

INTERCHANGEABILITY TABLE

CANCELLED PART NUMBERS <sup>1/</sup>	SUBSTITUTIVE PART NUMBERS <sup>1/</sup>
NAS1039C	MS21068-06
NAS1040C	MS21068-3
NAS104.C	MS21068-4
MS21089 L08	MS21068L08
MS21089 L3	MS21068L3
MS21089 L4	MS21068L4

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

USER ACTIVITIES  
ARMY-CR, MIREVIEWER ACTIVITIES  
AIR FORCE-82  
DLA-IS

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NAVY-AS Other Code ARMY-AV AIR FORCE-11	INTERNATIONAL INTEREST	TITLE NUT, SELF-LOCKING GANG CHANNEL, 100° CSK, FLOATING, LOW HEIGHT, CRES, 125KSI F <sub>tu</sub> , 450°F & 800°F	MILITARY STANDARD <b>MS21068</b>
PROCUREMENT SPECIFICATION MIL-N-25027	SUPERSEDES MS21089, NAS 1039 THRU 1041 IN PART	PAGE 3 OF 3	

DD FORM 672-1 COORDINATED

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

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