

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

Form Approved  
OMB No. 0704-0188

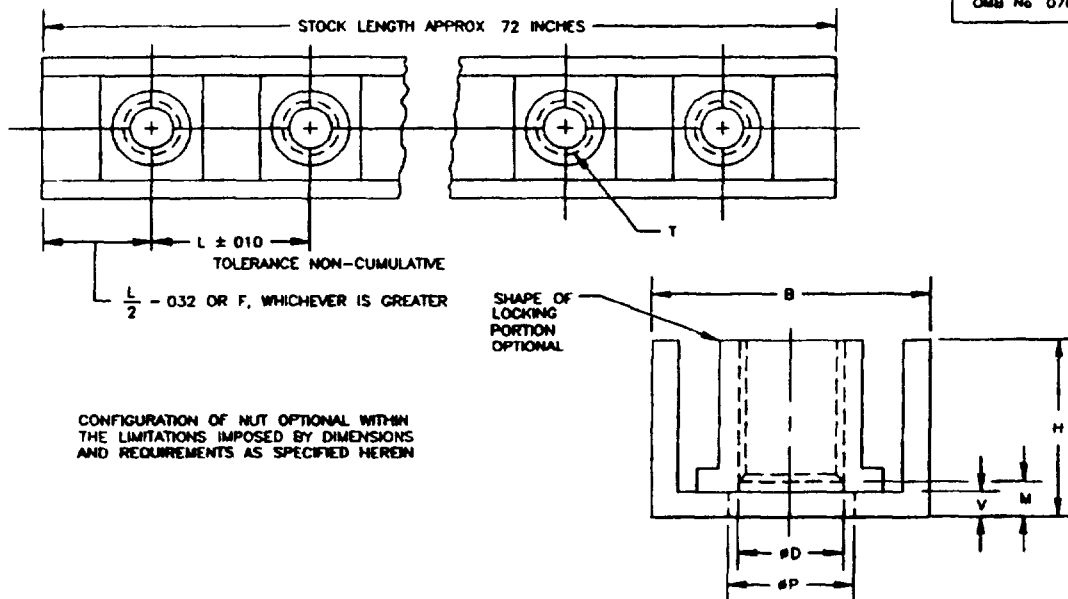


TABLE I DASH NUMBERS AND DIMENSIONS

FIRST DASH NUMBERS		T THREAD SIZES	B MAX	ØD MIN	F MIN	1/ H MAX	L MIN SPACING AVAILABLE	M MIN	2/ ØP		V MAX	AXIAL STRENGTH LBS/MIN	WEIGHT	
NON-DRY FILM LUBRICANT	DRY FILM LUBRICANT								MAX	MIN			NUT ELEMENTS LBS/100	CHANNEL LBS/INCH
-08	L08	184-32 UNJC-3B	416	168	343	250	825	062	270	184	035	1 720	19	0028
-3	L3	190-32 UNJF-3B	416	194	343	250	825	062	270	210	035	2 460	20	0028
-4	L4	250-28 UNJF-3B	516	254	408	281	750	062	330	270	045	4 580	43	0032
-5	L5	3125-24 UNJF-3B	809	317	489	328	875	062	393	333	045	7 390	64	0053
-6	L6	375-24 UNJF-3B	726	379	562	344	1 000	062	455	395	055	11 450	1 08	0073

- 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 ELEMENT(S)
-5	825	115
-6	750	98
-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

(H) DENOTES CHANGE(S)

INCH-POUND

PREPARING ACTIVITY DLA-IS CUSTODIANS ARMY- AV NAVY- AS AIR FORCE- 99 DLA- REVIEW CR MI PROJECT NUMBER 5310-1951		MILITARY SPECIFICATION SHEET TITLE NUT, SELF-LOCKING GANG CHANNEL, FLOATING, LOW HEIGHT, STEEL, 125 KSI F <sub>tu</sub> , 250°F		SPECIFICATION SHEET NUMBER <b>MS21063</b> 15 APR 94 REV H SUPERSEDING MS21063 G 21 NOV 1988 AMSC- N/A FSC 5310					
DISTRIBUTION STATEMENT A. Approved for public release distribution is unlimited									
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# REQUIREMENTS

## 1 MATERIAL

NUT ELEMENT - CARBON STEEL COMPOSITIONS 1035 (UNS G10350), 1040 (UNS G10400) AND 1050 (UNS G10500) 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 8740 (UNS G87400) IN ACCORDANCE WITH ASTM A29

CHANNEL - ALUMINUM ALLOY 1100 ANNEALED (UNS A91100) IN ACCORDANCE WITH QQ-A-250/1 ALUMINUM ALLOY 2024, TEMPER T4 (UNS A92024) IN ACCORDANCE WITH QQ-A-250/4 ALUMINUM, ALLOY 7075, TEMPER T6 (UNS A97075) IN ACCORDANCE WITH QQ-A-250/12 OR QQ-A-250/13 (ALCLAD)

## 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 - IN ACCORDANCE WITH PROCUREMENT SPECIFICATION

## 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 0.30 NOR MORE THAN 0.40 LONGITUDINALLY AND NOT LESS THAN 0.10 NOR MORE THAN 0.30 LATERALLY FROM CENTERED POSITION NUT ELEMENT SHALL BE CAPABLE OF ENGAGEMENT WITH A BOLT IN THE MAXIMUM MISALIGNMENT POSITION MAXIMUM AXIAL FLOAT 0.20 INCH FOR -08 AND -3 0.30 FOR LARGER SIZES

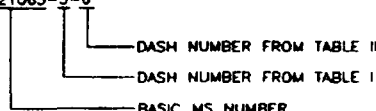
## 10 ASSEMBLY THE ASSEMBLY SHALL PROVIDE A BEARING SURFACE FOR THE NUT ELEMENT WITHIN THE HOUSING THE CENTERLINE OF THE CHANNEL SHALL NOT DEVIATE FROM A STRAIGHT LINE BY MORE THAN 0.15 IN ANY 12 INCHES THE NUT ELEMENT AND BASE PORTION OF THE ASSEMBLY SHALL FORM ONE INTEGRAL UNIT

## 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 MS21063-3-6



MS21063-3-6 INDICATES NUT SELF-LOCKING GANG CHANNEL, FLOATING LOW HEIGHT, STEEL 125 KSI F<sub>u</sub>, 250° F, GANG CHANNEL ASSEMBLY CONSISTING OF NINETY-SIX 190-32 UNJF-38 CADMIUM PLATED NUT ELEMENTS SPACED AT 750 INCH

MS21063L4-7-10 INDICATES NUT SELF-LOCKING GANG CHANNEL, FLOATING LOW HEIGHT, STEEL 125 KSI F<sub>u</sub>, 250° F, GANG CHANNEL ASSEMBLY CONSISTING OF TEN 250-28 UNJF-38 CADMIUM PLATED DRY FILM LUBRICATED NUT ELEMENTS SPACED AT 875 INCH

PREPARING ACTIVITY DLA-15

CUSTODIANS ARMY- AV NAVY- AS

AIR FORCE- 99 DLA-

REVIEW CR, MI

PROJECT NUMBER 5310-1951

DISTRIBUTION STATEMENT A. Approved for public release distribution is unlimited

# MILITARY SPECIFICATION SHEET

TITLE

NUT, SELF-LOCKING GANG CHANNEL,  
FLOATING, LOW HEIGHT, STEEL,  
125 KSI F<sub>u</sub>, 250° F

SPECIFICATION SHEET NUMBER

MS21063

15 APR 94  
REV H

SUPERSEDING

MS21063 G 21 NOV 1988

AMSC- N/A

FSC 5310

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## 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 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 MS33358 ONLY NUTS FOR WHICH THERE ARE QUALIFIED PRODUCTS LISTED ON OPL 25027 SHALL BE USED

INTERCHANGEABILITY RELATIONSHIP

MS21063 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 MS21063 NUTS

INTERCHANGEABILITY TABLE

CANCELLED PART NUMBERS <sup>1/</sup>		SUBSTITUTIVE PART NUMBERS <sup>1/</sup>
NAS1034PX	NAS688PX	MS21063-06
NAS1035PX	NAS689PX	MS21063-3
NAS1036PX	NAS690PX	MS21063-4
NAS1037PX	NAS691PX	MS21063-5
NAS1038PX	NAS692PX	MS21063-6
NAS1034P	NAS688P	MS21063L08
NAS1035P	NAS689P	MS21063L3
NAS1036P	NAS690P	MS21063L4
NAS1037P	NAS691P	MS21063L5
NAS1038P	NAS692P	MS21063L6

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

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