

MS21063

Nut, Self-locking Gang Channel, Floating, Low Height, Steel, 125 Ksi. Ft. 250°F

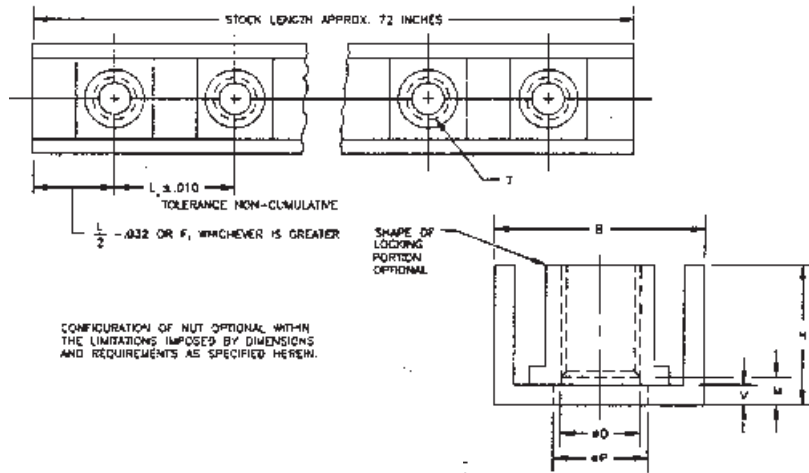


TABLE I. DASH NUMBERS AND DIMENSIONS

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	STRENGTH LBS/MIN	WEIGHT		
NON-DRY FILM LUBRICANT	DRY FILM LUBRICANT								MAX	MIN			LBS/100	CHANNEL LBS/INCH	
-08	L08	.164-32 UNJC-38	.416	.168	.343	.250	.625	.062	.270	.184	.035	1.720	.19	.0028	
-3	L3	.190-32 UNJF-38		.194					.210				2.460	.20	.0028
-4	L4	.250-28 UNJF-38	.516	.254	.406	.281	.750		.330	.270	.045		4.580	.43	.0032
-5	L5	.3125-24 UNJF-38	.609	.317	.469	.328	.875		.393	.333			7.390	.64	.0053
-6	L6	24 UNJF-38	.726	.379	.562	.344	1.0000		.455	.395	.055		211.450	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

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SECOND DASH NUMBER	L NUT ELEMENT SPACING	MAXIMUM NUMBER OF NUT ELEMENT(S)
- 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

ADDITIONAL NOTES:

- PROCUREMENT SPECIFICATION: NONE
- SUPERSEDES: MS21063G
- THIS INFORMATION FROM MILITARY STANDARD MS21063 H PAGE 1 OF 3, REVISED APRIL 15, 1994, SOME DETAILS MAY HAVE BEEN OMITTED FOR CLARITY.

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Genuine Aircraft Hardware Co.

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Continued...

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 (UNSA92024), 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-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 MICROINCHES, IN ACCORDANCE WITH ANSI/ASME 846.1.

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 CENTER LINE 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.

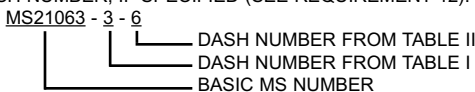
12. CODE: FIRST DASH NUMBER DESIGNATES THREAD SIZE.

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:



MS21063-3-6 INDICATES: NUT, SELF-LOCKING GANG CHANNEL, FLOATING, LOW HEIGHT, STEEL; 125 KSI FTU, 250°F; GANG CHANNEL ASSEMBLY CONSISTING OF NINETY-SIX 190-32 UNJF -3B. CADMIUM PLATED NUT ELEMENTS, SPACED AT .750 INCH.

MS210633L4-7-10 INDICATES: NUT, SELF-LOCKING GANG CHANNEL, FLOATING, LOW HEIGHT, STEEL; 125 KSI FTU, 250°F; GANG CHANNEL ASSEMBLY CONSISTING OF TEN .250-28 UNJF -3B. CADMIUM PLATED DRY FILM LUBRICATED NUT ELEMENTS, SPACED AT .875 INCH.

- PROCUREMENT SPECIFICATION: NONE
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Continued...

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 MS33588. ONLY NUTS FOR WHICH THERE ARE QUALIFIED PRODUCTS LISTED ON QPL 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 ^{1/}		SUBSTITUTIVE PART NUMBERS ^{1/}
NAS1034PX	NAS688PX	MS21063-08
NAS1035PX	NAS689PX	MS21063-08-3
NAS1036PX	NAS690PX	MS21063-08-4
NAS1037PX	NAS691PX	MS21063-08-5
NAS1038PX	NAS692PX	MS21063-08-6
NAS1034P	NAS688P	MS21063L08
NAS1035P	NAS689P	MS21063L3
NAS1036P	NAS690P	MS21063L4
NAS1037P	NAS691P	MS21063L5
NAS1038P	NAS692P	MS21063L6

^{1/} NUT ELEMENT SPACING DASH NUMBER IS IDENTICAL FOR BOTH CANCELLED AND CORRESPONDING SUBSTITUTIVE PART NUMBERS.

ADDITIONAL NOTES:

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