

MARK MS21085 AND
MFG IDENTIFICATION.
LOCATION OPTIONAL

OPTIONAL
PROFILE

FED. SUPPLY CLASS

5310

COUNTERSINK, COUNTERBORE,
OR RADIUS RELIEF TO THREAD
WITHIN THE 85° MIN ANGLE
AND ID LIMITATION

RADIUS,
CHAMFER,
OR SQUARE

T THREAD

TOOL MARKS AND
DISTORTION PERMISSIBLE
IN LOCKING AREA

RADIUS OR
CHAMFER

SHAPE OF LOCKING
PORTION OPTIONAL

WRENCHING ELEMENT.
SEE TABULATION

TABLE I – DIMENSIONS

DASH NO.	NON- DRY LUBT	DRY LUBT	NOMINAL SIZE	T THREAD	MS33787 ELEMENT NUMBER	A MAX	B MIN /1/	ID /1/		H MAX	V MIN	J MIN	X	ULT AXIAL STRENGTH LBF MIN /2/	APPROX WEIGHT LB/100
								MAX	MIN						
03	L03		No. 10	.1900-32 UNJF-3B	8	.377	.337	.220	.190	.250	.025	.095	.003	5,640	.30
04	L04		1/4	.2500-28 UNJF-3B	10	.481	.441	.280	.250	.315	.033	.125	.003	10,100	.59
05	L05		5/16	.3125-24 UNJF-3B	12	.588	.548	.342	.312	.405	.041	.156	.003	16,000	1.00
06	L06		3/8	.3750-24 UNJF-3B	16	.701	.661	.405	.375	.490	.049	.188	.003	24,700	1.90
07	L07		7/16	.4375-20 UNJF-3B	18	.821	.771	.473	.438	.570	.057	.219	.003	33,500	2.70
08	L08		1/2	.5000-20 UNJF-3B	20	.933	.883	.535	.500	.650	.065	.250	.003	44,600	4.40
09	L09		9/16	.5625-18 UNJF-3B	24	1.041	.991	.597	.562	.730	.073	.281	.004	56,600	6.20
10	L10		5/8	.6250-18 UNJF-3B	26	1.154	1.104	.660	.625	.810	.081	.313	.004	70,800	8.70
12	L12		3/4	.7500-16 UNJF-3B	30	1.375	1.325	.785	.750	.980	.098	.375	.004	103,000	14.00
14	L14		7/8	.8750-14 UNJF-3B	36	1.592	1.542	.910	.875	1.140	.114	.438	.005	140,000	23.00
16	L16		1	1.0000-12 UNJF-3B	40	1.810	1.760	1.035	1.000	1.300	.130	.500	.006	183,000	33.00

MATERIAL:

ALLOY STEEL PER AMS6304, ~~AMS6485~~ AND AMS6487.

HEAT TREATMENT:

48 HRC MAX.

① COMPLETELY REVISED

THE INITIAL RELEASE OF THIS DOCUMENT SUPERSEDES MS21085, REVISION A. PART NUMBERS REMAIN MS21085.

THIRD
ANGLE
PROJECTION

CUSTODIAN
NATIONAL AEROSPACE STANDARDS COMMITTEE

REVISION

1

PROCUREMENT
SPECIFICATION

TITLE

CLASSIFICATION
PART STANDARD

NASM8984

**NUT, SELF-LOCKING, STEEL, 260 KSI Ft_u, 450 °F,
FLANGED, MS33787 WRENCHING ELEMENT**

①

NASM21085
SHEET 1 OF 2



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FINISH:

CADMIUM PLATE IN ACCORDANCE WITH AMS-QQ-P-416, TYPE II, CLASS 2.
 DRY FILM LUBRICATED NUTS IN ACCORDANCE WITH AMS-QQ-P-416, TYPE AND CLASS OPTIONAL, IF
 THE NUTS MEET THE SALT SPRAY REQUIREMENTS OF AMS-QQ-P-416, TYPE II.

LUBRICATION:

LUBRICANT APPROVED IN ACCORDANCE WITH PROCUREMENT SPECIFICATION. LUBRICANTS, EXCEPT
 DRY FILM LUBRICANTS, SHALL BE SOLUBLE IN THE CLEANER SPECIFIED IN THE PROCUREMENT
 SPECIFICATION.

EXAMPLES OF PART NUMBER:

MS21085-04 = .2500-28 NUT, CADMIUM PLATED, SOLUBLE LUBRICANT
 MS21085L04 = .2500-28 NUT, CADMIUM PLATED, DRY FILM LUBRICATED

NOTES:

- /1/ MINIMUM BEARING AREA BASED ON A BEARING STRESS OF 115 KSI.
- /2/ AXIAL STRENGTH DETERMINED FROM FORMULA $W_a = F_{tu} A$, WHERE "A" IS THE CROSS SECTIONAL AREA IN SQUARE INCHES, BASED ON THE MAXIMUM PITCH DIAMETER OF BOLT THREAD, " F_{tu} " IS 260 KSI AND " W_a " IS THE AXIAL STRENGTH IN POUNDS FORCE.
- (3) SURFACE ROUGHNESS: BEARING SURFACE SHALL BE 125 MICROINCHES Ra PER ASME B46.1.
- (4) THREADS: AS8879 BEFORE LUBRICATION.
- (5) WRENCHING ELEMENT PER MS33787; DRIVERS PER MIL-W-8982.
- (6) PERPENDICULARITY: BEARING SURFACE SHALL BE NORMAL WITH PITCH DIAMETER OF THREAD WITHIN "X" WHEN CHECKED IN ACCORDANCE WITH PROCUREMENT SPECIFICATION.
- (7) DIMENSIONS IN INCHES AND APPLY AFTER FINISH AND PRIOR TO THE APPLICATION OF LUBRICATION UNLESS OTHERWISE SPECIFIED.
- (8) DESIGN USAGE INFORMATION: THESE NUTS ARE DESIGNED TO BE USED WITH MS21296 BOLTS AND MS21299 WASHERS.
- (9) THIS STANDARD TAKES PRECEDENCE OVER DOCUMENTS REFERENCED HEREIN.
- (10) UNLESS OTHERWISE SPECIFIED, PART INVENTORY MANUFACTURED TO PREVIOUS REVISIONS OF THE APPLICABLE DRAWING OR SPECIFICATION MAY BE PROCURED AND USED UNTIL STOCK IS DEPLETED.
- (11) UNLESS OTHERWISE SPECIFIED HEREIN, REFERENCED DOCUMENTS SHALL BE THE ISSUE IN EFFECT ON DATE OF MANUFACTURE. HOWEVER, EXISTING MATERIAL INVENTORY CERTIFIED TO A PREVIOUS REVISION OF THE APPLICABLE MATERIAL SPECIFICATION(S) IS ACCEPTABLE FOR USE UNTIL DEPLETION.
- (12) DIMENSIONING AND TOLERANCING PER ANSI Y14.5M-1982.

REVISION

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① COMPLETELY REVISED



NAS **MS21085**

SHEET 2

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