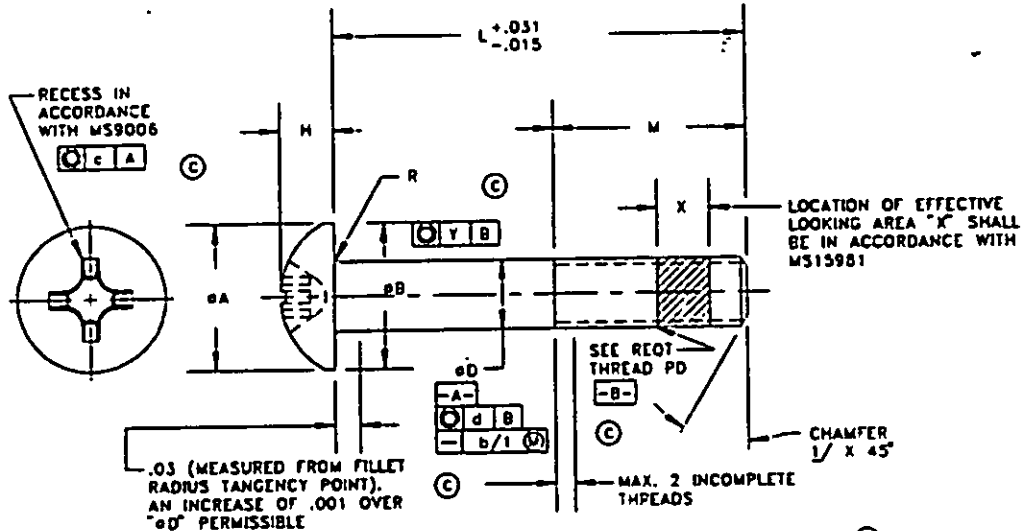


THE REQUIREMENTS FOR ACCORDING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DOCS SPECIFIED IN THE SOLICITATION: MIL-0-87114, WL-F-18240

THIS SPECIFICATION IS APPROVED FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE.

Form Approved  
OME No. 0704-0188



DASH NO D/A	THREAD	ØD MAX MIN	ØA MAX MIN	ØB MIN	H MAX MIN	M MAX REF	R RAD MAX MIN	T MAX	Y	d	e	b	2/ ULTIMATE TENSILE LBS./MIN	DOUBLE SHEAR LBS./MIN	DRIVER SIZE
04	.1120-40UNC-3A	.1120 .1095	.219 .205	.185	.080 .070	.250	.010 .015	.090					760	1,480	1
06	.1380-32UNC-3A	.1380 .1355	.270 .256	.242	.097 .087	.312		.111	.005				1,120	2,240	2
08	.1640-32UNC-3A	.1635 .1610	.322 .308	.289	.115 .105	.437		.127		.0045	.016	.0040	1,740	3,170	2
3	.1900-32UNF-3A	.1895 .1870	.373 .357	.331	.133 .122	.406	.020 .010	.145	.006				2,420	4,250	2
4	.2500-28UNF-3A	.2495 .2470	.492 .473	.424	.175 .162	.469		.192	.006			.0030	4,420	7,360	3
5	.3125-24UNF-3A	.3120 .3095	.615 .594	.518	.218 .203	.531		.287	.009				7,100	11,500	4
6	.3750-24UNF-3A	.3745 .3720	.740 .718	.611	.281 .244	.641	.025	.266	.010		.024	.0025	10,790	16,560	4
7	.4375-20UNF-3A	.4370 .4345	.863 .836	.706	.304 .286	.636				.0060			14,600	22,500	4
8	.5000-20UNF-3A	.4995 .4970	.987 .956	.801	.348 .327	.781	.030 .020					.0020	19,810	29,400	4

- 1/ CHAMFER LENGTH FROM END TO FIRST COMPLETE THREAD NOT TO EXCEED 2 THREAD PITCHES INCLUDING CHAMFER.  
2/ BASED ON 125 KSI ULTIMATE TENSILE STRENGTH AND STRESS AREA = 3.1416 (E/2 - 3H/16)<sup>2</sup> SEE FED-STD-H28/1.

Ⓒ DENOTES CHANGE(S)

INCH-POUND

PREPARING ACTIVITY: DLA-03  
CUSTODIANS: ARMY-AV NAVY-43  
AIR FORCE-99 DLA-

MILITARY SPECIFICATION SHEET  
TITLE  
BOLT, SELF-LOCKING  
75 KSI Tens, 125 KSI Flt.  
PAN HEAD, CROSS RECESSED

SPECIFICATION SHEET NUMBER  
MS21096 9 DEC 94  
REV C  
SUPERSEDED  
MS21096 0 14 OCT 94  
AMSC-H/A FSC-5308

DISTRIBUTION STATEMENT  
A. Approved for public release; distribution is unlimited.

Page 1 of 3

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-B-87114, MIL-F-18240

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LENGTH DASH NO	GRIP C ±.010	LENGTH +.031 -.015									
		.1120-40	.1380-32	.1640-32	.1900-32	.2500-28	.3125-24	.3750-24	.4375-20	.5000-20	
001	.062	.312	.375	.500							
002	.125	.375	.437	.562							
003	.187	.437	.500	.625	.593						
004	.250	.500	.562	.687	.656	.719					
006	.375	.625	.587	.812	.741	.844	.908	1.016			
008	.500	.750	.812	.937	.908	.969	1.031	1.141	1.156	1.281	
010	.625	.875	.937	1.062	1.031	1.094	1.156	1.266	1.281	1.406	
012	.750	1.000	1.062	1.187	1.156	1.219	1.281	1.391	1.406	1.531	
014	.875	1.125	1.187	1.312	1.281	1.344	1.406	1.516	1.531	1.656	
016	1.000	1.250	1.312	1.437	1.406	1.469	1.531	1.641	1.656	1.781	
018	1.125	1.375	1.437	1.562	1.531	1.594	1.656	1.766	1.781	1.906	
020	1.250	1.500	1.562	1.637	1.656	1.719	1.781	1.891	1.906	2.031	
022	1.375	1.625	1.637	1.812	1.781	1.844	1.906	2.016	2.031	2.156	
024	1.500	1.750	1.812	1.937	1.906	1.969	2.031	2.141	2.156	2.281	
026	1.625	1.875	1.937	2.062	2.031	2.094	2.156	2.266	2.281	2.406	
028	1.750	2.000	2.062	2.187	2.156	2.219	2.281	2.391	2.406	2.531	
030	1.875		2.187	2.312	2.281	2.344	2.406	2.516	2.531	2.656	
032	2.000		2.312	2.437	2.406	2.469	2.531	2.641	2.656	2.781	
034	2.125		2.437	2.562	2.531	2.594	2.656	2.766	2.781	2.906	
036	2.250		2.562	2.687	2.656	2.719	2.781	2.891	2.906	3.031	
038	2.375		2.687	2.812	2.781	2.844	2.906	3.016	3.031	3.156	
040	2.500		2.812	2.937	2.906	2.969	3.031	3.141	3.156	3.281	
042	2.625				3.031	3.094	3.156	3.266	3.281	3.406	
044	2.750				3.156	3.219	3.281	3.391	3.406	3.531	
046	2.875				3.281	3.344	3.406	3.516	3.531	3.656	
048	3.000				3.406	3.469	3.531	3.641	3.656	3.781	
050	3.125				3.531	3.594	3.656	3.766	3.781	3.906	
052	3.250									4.031	
054	3.375									4.156	
056	3.500									4.281	
058	3.625									4.406	
060	3.750									4.531	
062	3.875									4.656	
064	4.000									4.781	
066	4.125									4.906	

PREPARING ACTIVITY: DLA-IS  
CUSTODIANS: ARMY-AV NAVY-A3  
AIR FORCE-99 DLA-

MILITARY SPECIFICATION SHEET  
TITLE  
BOLT, SELF-LOCKING  
75 KSI Fla, 125 KSI Fla  
PAN HEAD, CROSS RECESSED

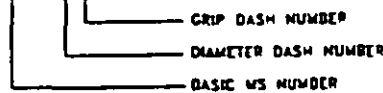
SPECIFICATION SHEET NUMBER  
MS21096  
5 DEC 94  
REV C  
SUPERSEDING  
MS21098 B 14 OCT 94  
AMSC- N/A FSC-5308

DISTRIBUTION STATEMENT: A. Approved for public release; distribution is unlimited. Page 2 of 3

(C) REQUIREMENTS:

- (C) 1. MATERIAL: ALLOY STEEL 4340 (UNS G43400) IN ACCORDANCE WITH MIL-S-5000 OR 8740 (UNS G87400) IN ACCORDANCE WITH AMS 6322.
2. THREADS: THREADS SHALL BE CLASS 3A IN ACCORDANCE WITH FED-STD-H28/2. ACCEPTABILITY OF SCREW THREADS SHALL BE IN ACCORDANCE WITH FED-STD-H28/2D, SYSTEM 22.
3. DIMENSIONING AND TOLERANCING: DIMENSIONING AND TOLERANCING SHALL BE IN ACCORDANCE WITH ANSI Y14.5M.
4. PROTECTIVE COATING: CADMIUM PLATED IN ACCORDANCE WITH QQ-P-416, TYPE II, CLASS 3.
5. LOCKING ELEMENT: IN ACCORDANCE WITH SPECIFICATION MIL-F-18240. THE LOCKING ELEMENT AREA, WITH LOCKING ELEMENT INCORPORATED MUST PASS THRU A RING GAGE EQUAL TO MAXIMUM MAJOR THREAD DIAMETER +.003" FREE OR WITH FINGER PRESSURE.
6. SURFACE TEXTURE: SURFACE TEXTURE, UNLESS OTHERWISE SPECIFIED, SHALL BE 125 MICRONS EXCEPT UPSET HEAD IN ACCORDANCE WITH ANSI/ASME B46.1.
7. TOLERANCE: UNLESS OTHERWISE SPECIFIED, TOLERANCES SHALL BE FOR LINEAR DIMENSIONS ±.010, ANGULAR DIMENSIONS ± 5°.
8. HARDNESS: PARTS SHALL BE WITHIN ROCKWELL HARDNESS RANGE OF C-26 TO C-32.
9. PART NUMBER: THE PART NUMBER SHALL CONSIST OF THE BASIC MS NUMBER FROM TABLE.

EXAMPLE: MS21096-4008



MS21096-4008 INDICATES - BOLT, SELF-LOCKING, .250-28 UNF-3A, GRIP .500.

NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. DESIGN AND USAGE LIMITATIONS: SEE MS15981.
3. REVISION LETTERS ARE NOT USED TO DENOTE CHANGES DUE TO THE EXTENSIVENESS OF THE CHANGES.
- (C) 4. IN THE EVENT OF A CONFLICT BETWEEN THE TEXT OF THIS DOCUMENT AND THE REFERENCES CITED HEREIN, THE TEXT OF THIS DOCUMENT SHALL TAKE PRECEDENCE.
- (C) 5. UNLESS OTHERWISE SPECIFIED, ISSUE OF REFERENCED DOCUMENTS ARE THOSE IN EFFECT AT THE TIME OF SOLICITATION.
6. AS AND AMS ARE SAE PUBLICATIONS.
7. GRIP LENGTH IS MEASURED FROM THE UNDERSIDE OF HEAD TO END OF FULL CYLINDRICAL PORTION OF SHANK.
8. UNASSIGNED DASH NUMBERS SHALL NOT BE USED EXCEPT THOSE DASH NUMBERS INCLUDED BY THE FOLLOWING CODING NOTE: DASH NUMBERS INDICATE PREFERRED GRIP LENGTHS IN .125 INCREMENTS FOR LENGTHS LONGER THAN .250 INCHES. INTERMEDIATE GRIP LENGTHS BETWEEN THESE LENGTHS LISTED, MAY BE SPECIFIED IN .062 INCREMENTS BY INTERMEDIATE DASH NUMBERS. LENGTH AND GRIP OF A BOLT WITH AN ODD NUMBER FOR THE DASH NUMBER WILL BE .062 GREATER THAN SHOWN FOR THE BOLT WITH THE PRECEDING EVEN DASH NUMBER.
- (C) 9. PROCUREMENT SPECIFICATION: MIL-B-87114 EXCEPT AS NOTED TENSILE LOADS AS TABULATED HEREIN. FATIGUE STRENGTH AND COLD WORKING OF HEAD TO SHANK FILLET ARE NOT APPLICABLE. RECESS TORQUE VALUES ARE NOT APPLICABLE FOR SCREWS WITH MS8008 RECESSES.

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THIS SPECIFICATION IS APPROVED FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE.

PREPARING ACTIVITY: DLA-IS CUSTODIANS: ARMY-AV      NAVY-A5 AIR FORCE-99      DLA-	<b>MILITARY SPECIFICATION SHEET</b>		SPECIFICATION SHEET NUMBER
	TITLE		<b>MS21096</b> 5 DEC 94 REV C
	BOLT, SELF-LOCKING 75 KSI F <sub>u</sub> , 125 KSI F <sub>y</sub> PAN HEAD, CROSS RECESSED		SUPERSEDING MS21096 B      14 OCT 94 AMSC-N/A      FSC-5110
REVER: _____ USER: _____ PROJECT NUMBER: 5308-1818 DISTRIBUTION STATEMENT			Page <u>3</u> of <u>3</u>

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