

TABLE I. DASH NUMBERS AND DIMENSIONS

NOMINAL SIZE		:	4 (.11	.2)	<b>#</b> 6	(.138)		<b>\$</b> 8 (	.164)		\$10	(.190	))	ĺ		
	THE	AD SIZE		.11	2-40UN	C-3A	.138-	.138-32UNC-3A .164-32UNC-3A					.190-	24UNC	-3A	1
ØD	BODY		MAX MIN		.1120			1380 1329		.1640 .1585				1900		1
Øà	HEAD		MAX	<del>                                     </del>	.183	··· · · ·	•	226	·	.27	0		1	1840 312		1
			MIN	<b> </b>	.176			218 138		.26				303		_
li	HEAD !	EICHT	MIN	1	.108			138		.16				190 185		
S	HLAD :		NEA		.101		<del>† .                                     </del>	124		.14				171		1
J	SOCIAL	' WIDTH	MAX		.0952			1111		.14	26		١.	1587		1
		FLATS	MIN		.0937			1094		.14			١.	1562		
T		CACEMENT	MIN		.051			064		.07				090		1
G	CHAME	THICKNESS	ИТМ		.038		<u> </u>	047		.05	5		ļ·	065		1
С	RADIUS		XA4		.005			005		.00	5			005		
R	FILLE		MAX	1	.009		.010			.012				014	-	ţ
	EXTLN		MAX		.005			006 050		.00				009 065		1
ĸ	HOLE	LOCATION	MIN		.026			035		.04				065 045		١
ØE	HOLE		PAX		.039			039		.05				050		t
<del>-</del> -			MIN		.033			033		.04	4			044		١
	RIXO.		MAX		.028			028		.046				040		1
		DIAMITUR INT PLUG	MIN	.020			020		.03	2		.032			1	
	DIAMET		<i>i</i>	.025		٠	025		.030	ס		<u> </u>	030			
	TERSILE 2/ STREAGNE, LES MIN		1,090			1	,640		2,5	20		3	,150		Ì	
				DASH	,	Ţ	DASH	,	Ţ,	DASH	,		Dr.Cr.	,		t
تليا ب	2(CTI)	TOLLFANCI	L	NO	I <sub>G</sub> MAL	L <sub>B</sub> Min	140	L <sub>G</sub> NAX	ипи Г <sup>В</sup>	NO	MVX T <sup>C</sup>	L <sub>B</sub>	DASH NO	L <sub>G</sub> NAX	L <sub>B</sub> MIN	l
. 2	:50			1			6			13		l				t
	75			2			7	1		14	l	ł	22			l
	00	+0.00		3		,	8			15		l	23		l	١
	25	-0.03		4			9	]		16		İ	24			۱
	50 75	•		5			10	]		17	ŀ	Ī	25		l	ļ
1.6						1	11			18			26		l	١
1.2							12			19 20	.38	.22	27 28	.38	15	ŀ
1.5		+0.00							'	20	.38	.22	28	.38	.17	l
1.7		-0.C4									٠.~		30	.88	.67	ı
2.0	00												31	.88	.67	1

⇒ SEL REQUIREMENT 8

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D ENTIRE STANDARD REVISED INCH - POUND SPECIFICATION SHEET NUMBER PREPARING ACTIVITY: ARMY-AR MILITARY SPECIFICATION SHEET NAVY-OS CUSTODIANS: ARMY-MS24677D 2 JAN 92 TITLE AR FORCE-99 DLA-SCREW, CAP, SOCKET HEAD, HEXAGON, SUPERSEDING MS24677C 5 MARCH 1986 REVIEW: MC, MI, SH, IS, 11 AND MS24676 DRILLED ALLOY STEEL, (UNC-3A) USER: AS, AT, ME FSC - 5305 AMSC-PROJECT NUMBER:5305-1916 N/A DISTRIBUTION STATEMENT A Approved for public release; distribution is unlimited. Page \_

DD Form 672, MAY 88

GPO: 1989-806-945

Form Approved OMB No. 0704-0188

TABLE 1. DASH NUMBERS AND DIMENSIONS - CONTINUED

	NOMI	NAL SIZE			1/4	(.250)		5/16	(.3125	,	3/8 (.3	75)	7	/16 (	.4375)3
<u> </u>	THREAD SIZE		.2	50-20	UNC-3A	.3125-18UNC-3A				.375~16UNC-3A					
ØD	BODY		MAX		.2500			. 71	25		.3750		+		
<u> </u>			MIN	-	.2435	5			)53	1	.3/50			43	
ØA	HEAD		MAX	- 1	. 375			. 40	9		.562			.656	
Н	DEAD I		MAX		.365		-	. 45			.550			.642	
- 11	HEAD H	EIGH	MIN	1	.250		1	. 31			. 375			.438	
s	HEAD S	IDE		+	.244		+	. 30	6		. 368		ļ	. 430	
	HEIGHT		MIN		.225		1	.28	1	1	. 337			. 394	
J	SOCKET ACROSS	MIDIH	MAX		. 1900			. 25	30	<del></del>	. 3160		+-	.379	
T	KEY EN	CACEMENT	MIN MIN	+-	.1875		-	. 25			.3125		ŀ	.375	
G	WALL T	HICKNESS	MIN		.12C		<b>!</b>	.15			.182		+	.213	
С	CHAMFE	ROR			.095		<b>⊢</b> _	11	9		.143		$\top$	.166	
	RADIUS		MAX		.008			.00	3		.008				
R	FILLET		MAX	+	014		├—	01:	,					.010	
	EXTENS	ON	MIN		009		ļ	.017		Į	.020			.023	
K	HOLE LO	CATION	MAX	Τ.	085		$\vdash$	.104		+	.015			.018	
ď n			MIN		065		L	.084			.123			.141	
ØE	HOLE		MAX MIN		050			.050		1	.067			.121	
	RECOME	NDCD	MAX		044		<u> </u>	.04,			.061			.061	
	WIRE DIAMETER MIN			032		.040				.057			.057		
	ALIGNENT PLUG DIAMETER 1/						.032			.045			.045		
			⊥ .	030			.030		1	.051			.051		
	TENSILE	<u>2</u> /	107.11							+			—		
	STRENCT	I, LBS	MIN	5	<b>, 4</b> 00			8,900		13	3,200		1	8,100	
		TOLE	RANCE			1				†	T	T	<del> </del> -	Ι	7
		SI	ZE	1							1	1			
LI	ENCTH	. 375	4375	DASH	եշ	113	DASH	I <sub>r</sub> G	LB	DASI	L <sub>G</sub>	t <sub>B</sub>	DASH	եշ	LB
		.373 OR	.4375 AND	NO	MAX		NO	MAX	MIN	110	MAX	MIN	:10	MAX	MIN
		UNDER	OVER	1		l i			1		1	1	\	PENA	1.4
			OVER	-	<b></b> -				ļ		ļ				
	375 500			32			46			1					T
	625	+0.00	.0.00	33			47		-	62	1	l	80		l
	750	-0.03	+0.00	34			48		1	63			81		1
	875	0.03	-0.03	35 36			49			64			82		
	000			37			50		]	65 66			83		1
	250		<del>                                     </del>	38		ĺ	52			67	į l		84 85		
	500			39	.50	. 25	53			68		- 1	85		
	750 000	+0.00	+0.00	40	.50	. 25	54	.62	. 35	69	.50	.19	87		
	250	-0.04	-0.06		1.00	-75	55	.60	. 35	70	.50	.19	88	.62	.27
	500				1.00	.75		1.12	.85	71	1.00	.69	89	.62	. 27
	750		├─		1.50	1.25		1.12	.85	72	1.00	.69	90	1.12	.77
	000		1			75		1.62	1.35	73 74	1.50	1.19	91	1.12	.77
	250	+0.00	+0.0C	77				1.62   2.12	1.35	75	1.50	1.19	92	1.62	1.27
	500	-0.06	-0.08						1.85	76	2.00	1.69	93	1.62	1.27
4.0		j	1		- 1					77	2.50	2.19	94 95	2.12	1.77
4.5	500	I			- 1		- 1		1		3.00	2.69	30	2.62	2.27
5.0															

- SEE REQUIREMENT 8
- 2/ SEE REQUIREMENT 9
- 3/ INACTIVE FOR NEW DESIGN

PREPARING ACTIVITY: ARMY-AR CUSTODIANS: ARMY- NAVY-OS AIR FORCE-99 DLA-	MILITARY SPECIFICATION SHEET TITLE	MS:	2467	7D 2 JAN 92
REVIEW: MC,MI,SH,IS,11 USER: AS,AT,ME	SCREW, CAP, SOCKET HEAD, HEXAGON.	SUPERSE AND MS	EDING MS246	577C 5 MARCH 1986
PROJECT NUMBER: 5305-1916 DISTRIBUTION STATEMENT	1	AMSC-	N/A	FSC - 5305
	release; distribution is unlimited.			Page 2 of 4

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			JEFFNSF	7	DEPARTMENT OF DEFENSE
INITIAL STRUCTURE OF THE CONTROL OF	2000	5	OKLL 0. K	3	

TABLE	I.	DASH	NUMBERS	AND	DIMENSIONS	_	CONTINUED	
TADDE		The Pitt	THUIDE	720	DHELLIAN			

Form Approved OMB No. 0704-0188

N	OMINAL SIZE	;	1/	2 (.50	00)	5/	'8 (.6	25)	3/4	4 (.75	0)	7/8	(.875	,3/	1 (	(1.000)	
THE	EAD SIZE		.500	-13UN	C-3A	. 625	-11UN	C-3A	.750	-10UNC	:-3A	.875	-9UNC	-3A	1.000	)-8UNC-	-3A
ØD BO	DOY	MAX MIN		.5000			.6250 .6163			7500 7406		.86	750 5 <b>4</b> 7		1.00	86	
ØA HE	EAD	MAX MIN	-	.750 .735			.938 .921			125 107		1.31			1.50 1.47	9	
Н 110	AD HEIGHT	MAX MIN		.500	,		.625 .616			750 740		.87 .86			1.00		
	EAD SIDE	MIN		. 450			.562			675		.78	37		.90	0 ·	
, SC	CRET WIDTH CROSS FLATS	MAX MIN		.3790			.505 (			6310 6250			570 500	'	.75 .75	00	
	Y ENGAGEMEN			.245			.307		-	370		. 4.	32		. 49	5	
	LL THICKNE			.190			.238			285		.3.			. 38	0	
c a	IAMFER OR	MAX		.010			.010			010		.01			.01		
	ADIUS ILLET	MAX		.026			.032			039		.04			.05		
. K	KTENSION	MIN		.020			.024			030	1	.03			.04		
K H	LE LOCATION	MAX MIN		.160			.198			235 215		.2			.31		
		MAX		.067			.067			097	$\neg$	.09			.09		
ØE HK	OLE .	MIN		.061			.061			091		.09	91		.09		
RE	ECOMMENDED	MAX		.057			.057			080		.08	30		.08		
1.7	THE DIAMETER	NTM C		.045			.045			064	1	.00	54		.06	4	
Al	LIGNMENT PLA LAMETER	<b>)</b> G 1/		.051			.051			081		.08	31		.08	1	
	ENSILE PRENGTH, LBS	2/ MIN		24,10	0		38,40	00	56	,800		78,	500	, . <u>.</u>	103,	000	
	TOLER SIZ		53.60		•	DASH	,	,	DASH	,	,_	DASH	$\mathbf{L}_{\mathbf{G}}$	L <sub>R</sub>	DASH	ЦG	L <sub>B</sub>
L LENGTH	.750	.875	DASH NO	MAX	L <sub>B</sub> MIN	NO NO	L <sub>G</sub>	L <sub>B</sub>	NO	L <sub>G</sub> MAX	L <sub>B</sub> MIN	NO	MAX	_	NO	MAX	MIN
	OR UNDER	AND OVER															
.500 .625 .750 .875 1.000	+0.00	+0.00 -0.05	96 97 98 99 100			116											
1.250 1.500 1.750 2.000 2.250 2.500	+0.00	+0.00 -0.10	101 102 103 104 105 106	.75 .75	.36	117 118 119 120 121	.75		132 133 134 135 136 137			147 148 149 150			159 160 161 162		
2.750 3.000 3.250 3.500 4.000 4.500 5.000 5.500 6.000	+0.00	+0.00 -0.14	107 108 109 110 111 112 113 114 115	.75 1.50 1.50 2.25 3.00 3.00 3.75 4.50	.36 1.12 1.12 1.12 1.86 2.62 2.62 3.36 4.12	123 124 125 126 127 128 129 130 131	.75 .75 1.50 1.50 2.25 2.25 3.00 3.75	.30 1.04 1.04 1.80 1.80 2.54 3.30	138 139 140 141 142 143 144 145 146	1.00 1.00 2.00 2.00 3.00 3.00	.50 .50 1.50 1.50 2.50 2.50	150 151 152 153 154 155 156 157 158	1.00 1.00 2.00 2.00 3.00 3.00	.44 .44 1.44 1.44 2.44	163 164 165 166 167 168 169	2.00 2.00 3.00	.38 .38 1.38 1.38 2.38 2.38

- SEE REQUIREMENT 8
- SEE REQUIREMENT 9
- INTERCHANGEABILITY DATA EFFECTIVE 7 JULY 1975, MS24676 WAS CANCELLED AND SUPERSEDED BY MS24677
- INTACTIVE FOR NEW DESIGN

MS24676 AND THE SCREWS COVERED BY THE PART NUMBERS LISTED IN THE STANDARD ARE CANCELLED AFTER THE DATE INDICATED ON THIS DOCUMENT.

USE ONLY THE PART NUMBER FROM MS24677 FOR DESIGN AND REPLACEMENT.

CANCELLED MS24676 SCREWS CANNOT ALWAYS REPLACE MS24677 SCREWS AND SHOULD BE USED ONLY WHERE APPLICABLE UNTIL EXISTING STOCK IS DEPLETED.

MS24677 SCREAS SHALL BE USED IN LIBU OF THE CANCELLED MS24676 SCREAS OF THE SAME DASH NUMBERS. FOR EXAMPLE:

SCHEWS MS24676-1 THROUGH MS24676-170 ARE CANCILLED AND SUPERSEDED BY SCREWS MS24677-1 THROUGH MS24677-170

PREPARING	ACTIVITY:	ARMY-AR
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CUSTODIANS: ARMY-

NAVY- OS

TITLE

DLA-

REVIEW: MC,MI,SH,IS,11

USER: AS,AT,ME PROJECT NUMBER: 5305-1916

AIR FORCE- 99

## MILITARY SPECIFICATION SHEET

SCREW, CAP, SOCKET HEAD, HEXAGON, DRILLED ALLOY STEEL, (UNC-3A)

## SPECIFICATION SHEET NUMBER

MS24677D 2 JAN 92

SUPERSEDING MS24677C 5 MARCH 1986 AND MS24676

AMSC-N/A FSC - 5305

DISTRIBUTION STATEMENT

A. Approved for public release; distribution is unlimited.

Page 3 of \_ SOLICITATION: FF-S-86

Form Approved OMB No. 0704-0188

## REQUIREMENTS:

- MATERIAL: ALLOY STEEL IN ACCORDANCE WITH PROCUREMENT SPECIFICATION.
- PROTECTIVE COATING AND SURFACE TREATMENT: UNCOATED, CADMIUM PLATE IN ACCORDANCE WITH QQ-P-416, TYPE II, CLASS 3, OR ALLMINUM ION VAPOR DEPOSITED IN ACCORDANCE WITH MIL-C-83488, TYPE II, CLASS 3 (SEE REQT 11).
  - (a) DO NOT USE CARMUM PLATER SCREWS FOR TEMPERATURES ABOVE 4500
  - (b) ALUMINUM ION VAPOR DEPOSITED COATING CAN BE USED FOR TEMPERATURES UP TO 850°F.
- 3. HARDNESS: IN ACCORDANCE WITH PROCUREMENT SPECIFICATION.
- THREADS: THREADS SHALL BE IN ACCORDANCE WITH FED-STD-H28/2. ACCEPTABILITY OF SCREW THREADS SHALL BE IN IN ACCORDANCE WITH PED-STD-H28/20, SYSTEM 22.
- THREAD LENGTH: SCREWS ABOVE HEAVY LINE SHALL HAVE COMPLETE (FULL FORM) THREADS EXTENDING WITHIN TWO THREADS OF THE HEAD.
- HEAD MAY OR MAY NOT BE KNURLED AT MANUFACTURER'S OPTION. TYPE OF KNURLING OPTIONAL. DIAMETER OF KNURLED HEAD SHALL NOT EXCEED THE MAXIMUM HEAD DIAMETER SPECIFIED.
- DRILLED HOLE DATA:
  - SCREWS #6 (.138) SHALL HAVE ONE (1) HOLE DRILLED THROUGH THE HEAD. SCREWS #8 (.164) AND LARGER SHALL HAVE (3) HOLES DRILLED THROUGH THE HEAD.
  - ON SCREWS SMALLER THAN \$8 (.164) THE DRILLED HOLE SHALL BE CENTERED AS CLOSE AS PRACTICABLE ON THE FLAT OF THE HEXAGON SOCKET. ON SCREWS \$8 (.164) AND LARGER THE DRILLED HOLES SHALL BE WITHIN THE FLATS ON THE HEXAGON SOCKET AND SHALL NOT BREAK THE CORNERS OF THE HEXAGON SOCKET.
  - EDGES OF THE HOLES ON THE OUTSIDE OF THE HEAD SHALL BE CHAMFERED 450 BY 0.010 TO 0.020 DEEP.
- ALIGNMENT PLUG: PLUG SHALL PASS COMPLETELY THROUGH THE DRILLED HOLES IN THE HEAD WITHOUT DEFLECTION.
- TENSILE STRENGTH: BASED ON MINIMUM ULTIMATE TENSILE OF 180.000 PS1 FOR SIZES 44 (.112) THRU #10 (.190) AND 170,000 PSI FOR SIZES OVER \$10 (.190). LOAD POUNDS CALCULATED BY THE STRESS AREAS INDICATED IN FED-STD-H28/2.
- 10. FINISH CODE:
  - A ALUMINUM COATING

  - U NO PROTECTIVE COATING OR SURFACE TREATMENT

    NO CODE CADMIUM PLATE (NOTE: MS24677C PART NUMBERS IN GOVERNMENT INVENTORY WITH ADDED "C" SHALL

    BE USED UNTIL STOCK IS DEPLETED.)
- PART NUMBER: THE PART NUMBER SHALL CONSIST OF THE BASIC MS NUMBER FOLLOWED BY A DASH NUMBER TAKEN FROM TABLE I, FOLLOWED BY A FINISH CODE LETTER, IF APPLICABLE.



MS24677-la Indicates - screw, cap, socket head, hexagon, drilled alloy steel; .112-40 unc-3a; LENGTH .250; ALUMINUM COATING.

MS24677-1 INDICATES - SCREW, CAP, SOCKET HEAD, HEXAGON, DRILLED ALLOY STEEL; .112-40 UNC-3A; LENGTH .250; CADMIUM PLATE.

MS24677-1U INDICATES - SCREW, CAP, SOCKET HEAD, HEXAGON, DRILLED ALLOY STEEL, .112-40 UNC-3A, LENGTH .250; NO PROTECTIVE COATING OR SURFACE TREATMENT.

SOURCE MARKING IDENTIFICATION: SCREWS WITH NOMINAL SIZES .190 AND LARGER SHALL BE PERMANENTLY MARKED TO IDENTIFY THE SOURCE ACCEPTING RESPONSIBILITY FOR THE SCREWS MEETING THE REQUIREMENTS SPECIFIED HEREIN. THE MARKING SHALL BE A SOURCE IDENTIFYING SYMBOL FOR A MANUFACTURER IN ACCORDANCE WITH COVERNMENT REGULATIONS OR A PRIVATE LABEL DISTRIBUTOR'S SYMBOL AS APPLICABLE.

## NOTES:

- 1. ALL DIMENSIONS ARE IN INCHES.
- 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.
- REFERENCED GOVERNMENT (OR NON-COVERNMENT) DOCUMENTS OF THE ISSUE LISTED IN THAT ISSUE OF THE DEPARAMENT OF DEFENSE INDEX OF SPECIFICATIONS AND STANDARDS (DODISS) SPECIFIED IN THE SOLICITATION FORM A PART OF THIS STANDARD TO THE EXTENT SPECIFIED HEREIN.

SPECIFICATION SHEET NUMBER PREPARING ACTIVITY: ARMY-AR MILITARY SPECIFICATION SHEET CUSTODIANS: ARMY-NAVY- OS MS24677D 2 JAN 92 TITLE AIR FORCE- 99 SUPERSEDING MS24677C 5 MARCH 1986 SCREW, CAP, SOCKET HEAD, HEXAGON. REVIEW: MC.MI,SH.JS.11 AND MS24676 DRILLED ALLOY STEEL, (UNC-3A) USER: AS, AT, ME AMSC-N/A FSC - 5305 PROJECT NUMBER: 5305-1916 DISTRIBUTION STATEMENT 4 4 A Approved for public release; distribution is unlimited. Page . of