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DRAWING NUMBER
SPS-B-95299

ISSUE DATE
7/27/99

REVISION

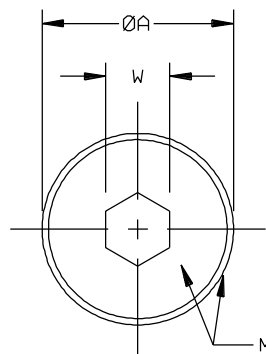
① 11/9/99

② 3/26/2001

③ 4/26/2001

④ 2/28/03

2/28/03



MARK SPS' MFGRS
IDENTIFICATION
LOCATION OPTIONAL

CHAMFER
OR RADIUS

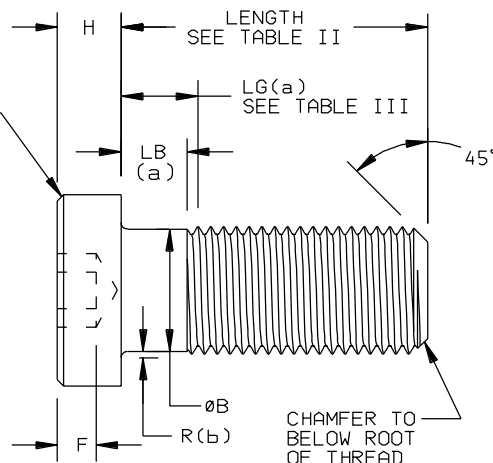


TABLE I

DASH NUMBER	NOMINAL DIAMETER	THREADS PER INCH		CLASS	ØA MAX/MIN	ØB MAX/MIN	F MIN	H MAX/MIN	R FILLET EXTENSION MAX/MIN	W NOM
		UNRC	UNRF							
-94	#4	40	48	3A	.183/.178	.1120/.1075	.038	.059/.053	.009/.005	.0500
-95	#5	40	44	3A	.205/.200	.1250/.1202	.044	.065/.059	.010/.006	.0625
-96	#6	32	40	3A	.226/.221	.1380/.1329	.050	.072/.066	.010/.006	.0625
-98	#8	32	36	3A	.270/.265	.1640/.1585	.060	.085/.079	.012/.007	.0781
-3	#10	24	32	3A	.312/.307	.1900/.1840	.072	.098/.092	.014/.009	.0938
-4	1/4	20	28	3A	.375/.369	.2500/.2435	.094	.127/.121	.014/.009	.1250
-5	5/16	18	24	3A	.437/.431	.3125/.3053	.110	.158/.152	.017/.012	.1562
-6	3/8	16	24	3A	.562/.556	.3750/.3678	.115	.192/.182	.020/.015	.1875
-8	1/2	13	20	3A	.750/.743	.5000/.4919	.151	.254/.244	.026/.020	.2500
-10	5/8	11	18	3A	.875/.867	.6250/.6163	.225	.316/.306	.032/.024	.3125
-12	3/4	10	16	3A	1.000/.987	.7500/.7406	.247	.376/.366	.039/.030	.3750
-14	7/8	9	14	3A	1.125/.1.111	.8750/.8647	.304	.438/.428	.044/.034	.5000
-16	1	8	12	3A	1.312/.1.297	1.0000/.9886	.359	.500/.489	.050/.040	.5620

(a) THE MINIMUM USABLE THREAD LENGTH SHALL BE EQUAL TO TWO TIMES THE NOMINAL DIAMETER + .500 INCH.
FOR GRIP LENGTHS, SEE TABLE III ON SHEET 2.

(b) IMPERFECT THREADS NOT TO ENTER INTO FILLET AREA.

TABLE II

LENGTH TOLERANCE			
DIAMETER	TO 1"	OVER 1" TO 2-1/2"	OVER 2-1/2"
ALL	-.03	-.04	-.06

1. MATERIAL: A286 PER CHEMISTRY OF AMS 5731, AMS 5737 OR AMS 5853.
2. HEAT TREATMENT: 160 KSI MATERIAL STRENGTH.
3. FINISH: SEE NOTE 7.
4. FLUORESCENT PENETRANT INSPECT PER ASTM E 1417. ACCEPTANCE CRITERIA PER SPS-I-650.
5. DIMENSIONS, GEOMETRIC TOLERANCING PER ASME B18.3 - INCLUDING MANUFACTURING NOTES NOT LISTED ON THIS DRAWING.
6. MANUFACTURING REQUIREMENTS: HEADS TO BE FORGED.

SOCKET MAY BE FORGED OR MACHINED.

THREADS TO BE ROLLED.

FOR #4 SIZE ONLY, BROACHING CHIPS MAY REMAIN BUT BE FIRMLY ATTACHED - NO LOOSE CHIPS ALLOWED.

7. TENSILE LOAD MINIMUM: BASED ON THE TENSILE STRESS AREA PER ASME B1.1 X 150,000 PSI.

8. WEDGE TEST NOT REQUIRED.

9. PART NUMBERING: 95299 () - () () - () ()

FINISH = B = CHEMICAL BLACK OXIDE PER MIL-DTL-13924.
C = CADMIUM PLATE PER AMS-QQ-P-416, TYPE II, CLASS 2.
S = SILVER PLATE PER AMS 2410.
NO LETTER = PASSIVATE PER AMS-QQ-P-35

= LENGTH IN SIXTEENTHS

THREAD = C-COARSE
F-FINE

= DASH NUMBER PER TABULATION

LOCKING FEATURE = NO LETTER-NO LOCKING FEATURE
E-TYPE P (PATCH) PER MIL-DTL-18240
K-TYPE N (PELLET) PER MIL-DTL-18240
TF-TRU-FLEX

BASIC PART NUMBER

TOLERANCES ±.010 AND ±.2°

SURFACE ROUGHNESS 125

UNLESS OTHERWISE NOTED

DRAFTED IN ACCORDANCE WITH ASME Y14.5M

DRAWN BY: STEVE FOSTER

APPROVED: L KLINE

APPROVED: S FOSTER

FSCM NO. 56878

CUSTODIAN:
JENKINTOWN, PA.

DATE: 7/27/99

DATE: 3/05/03

TITLE

BOLT, SOCKET HEAD CAP, LOW HEAD TYPE
A286, APPLICATION TO 1,000 F°
150 KSI F_{tu}

STANDARDS AND SPECIFICATIONS

FF-S-86

EXCEPT AS NOTED

PART NUMBER:

95299 () - () () - () ()



TABLE III

FOR LENGTHS SHORTER THAN LISTED, (LENGTHS ABOVE HEAVY LINE) SCREWS WILL BE THREADED TO WITHIN 2-1/2 THREAD PITCHES OF THE HEAD.

BODY AND GRIP LENGTHS										
SIZE	#4		#5		#6		#8		#10	
	L _G	L _B	L _G	L _B	L _G	L _B	L _G	L _B	L _G	L _B
NOM. LENGTH										
3/4										
7/8										
1-1/4	0.500	0.380	0.500	0.380	0.500	0.340	0.380	0.220		
1-1/2	0.500	0.380	0.500	0.380	0.500	0.340	0.380	0.220	0.620	0.420
1-3/4	1.000	0.880	1.000	0.880	1.000	0.840	0.880	0.720	0.620	0.420
2	1.000	0.880	1.000	0.880	1.000	0.840	0.880	0.720	1.120	0.920
2-1/4	1.500	1.380	1.500	1.380	1.500	1.340	1.380	1.220	1.120	0.920
2-1/2					1.500	1.340	1.380	1.220	1.620	1.420
2-3/4					2.000	1.840	1.880	1.720	1.620	1.420
3							2.380	2.220	2.120	1.920
3-1/4									2.620	2.420
3-1/2									2.620	2.420
3-3/4									3.120	2.920
4										

BODY AND GRIP LENGTHS																
SIZE	1/4		5/16		3/8		1/2		5/8		3/4		7/8		1	
	L _G	L _B	L _G	L _B	L _G	L _B	L _G	L _B	L _G	L _B	L _G	L _B	L _G	L _B	L _G	L _B
NOM. LENGTH																
1-3/4	0.750	0.500														
2	0.750	0.500	0.880	0.600												
2-1/4	1.250	1.000	0.880	0.600	1.000	0.690										
2-1/2	1.250	1.000	1.380	1.100	1.000	0.690	1.000	0.620								
2-3/4	1.750	1.500	1.380	1.100	1.500	1.190	1.000	0.620								
3	1.750	1.500	1.880	1.600	1.500	1.190	1.000	0.620								
3-1/4	2.250	2.000	1.880	1.600	2.000	1.690	1.750	1.360	1.500	1.040						
3-1/2	2.250	2.000	2.380	2.100	2.000	1.690	1.750	1.360	1.500	1.040	1.500	1.000				
3-3/4	2.750	2.500	2.380	2.100	2.500	2.190	2.250	1.800	2.250	1.800	1.500	1.000	1.500	0.940		
4	2.750	2.500	2.880	2.600	2.500	2.190	2.250	1.800	2.250	1.800	1.500	1.000	1.500	0.940	1.500	0.880
4-1/4	3.250	3.000	2.880	2.600	3.000	2.690	2.750	2.300	2.750	2.300	2.000	1.500	2.000	1.400	1.500	0.880
4-1/2	3.250	3.000	3.380	3.100	3.000	2.690	2.750	2.300	2.750	2.300	2.000	1.500	2.000	1.400	1.500	0.880
4-3/4	3.750	3.500	3.380	3.100	3.500	3.190	3.250	2.800	3.250	2.800	2.500	2.000	2.500	1.900	2.000	0.880
5	3.750	3.500	3.880	3.600	3.500	3.190	3.250	2.800	3.250	2.800	2.500	2.000	2.500	1.900	2.000	0.880
5-1/4	4.250	4.000	3.880	3.600	4.000	3.690	3.750	3.300	3.750	3.300	3.000	2.500	3.000	2.400	2.500	0.880
5-1/2	4.250	4.000	4.380	4.100	4.000	3.690	3.750	3.300	3.750	3.300	3.000	2.500	3.000	2.400	2.500	0.880
5-3/4			4.880	4.600	4.500	4.190	4.000	3.620	4.000	3.620	3.250	2.750	3.250	2.650	2.750	0.880
6			4.880	4.600	4.500	4.190	4.000	3.620	4.000	3.620	3.250	2.750	3.250	2.650	2.750	0.880
6-1/4			5.380	5.100	5.000	4.690	4.500	4.120	4.500	4.120	3.750	3.250	3.750	3.150	3.250	0.880
6-1/2					5.000	4.690	4.500	4.120	4.500	4.120	3.750	3.250	3.750	3.150	3.250	0.880
6-3/4					5.500	5.190	5.000	4.620	5.000	4.620	4.250	3.750	4.250	3.650	3.750	0.880
7						5.690	5.300	5.000	5.000	4.600	4.250	3.750	4.250	3.650	3.750	0.880
7-1/4						6.190	5.800	5.400	5.400	5.000	4.600	4.200	4.600	4.000	4.100	0.880
7-1/2						6.690	6.300	5.900	5.900	5.500	5.100	4.700	5.100	4.500	4.600	0.880
7-3/4						7.190	6.800	6.400	6.400	6.000	5.600	5.200	5.600	5.000	5.100	0.880
8						7.690	7.300	6.900	6.900	6.500	6.100	5.700	6.100	5.500	5.600	0.880
8-1/2						8.190	7.800	7.400	7.400	7.000	6.600	6.200	6.600	6.000	6.100	0.880
9-1/2						8.690	8.300	7.900	7.900	7.500	7.100	6.700	7.100	6.500	6.600	0.880
10						9.190	8.800	8.400	8.400	8.000	7.600	7.200	7.600	7.000	7.100	0.880
11						9.690	9.300	8.900	8.900	8.500	8.100	7.700	8.100	7.500	7.600	0.880
12						10.190	9.800	9.400	9.400	9.000	8.600	8.200	8.600	8.000	8.100	0.880
13									10.250	9.850	9.450	9.050	9.450	8.850	8.950	0.880
14											1.000	0.500	0.750	0.900	0.500	0.880
15											2.000	1.500	1.750	1.900	1.500	0.880
16											3.000	2.500	2.750	2.900	2.500	0.880
17													4.750	4.190	4.500	3.880
18													5.750	5.190	5.500	4.880
19															6.500	5.880
20															7.500	6.880

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TOLERANCES ±.010 AND ±.02"
SURFACE ROUGHNESS 125
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