INCH-POUND

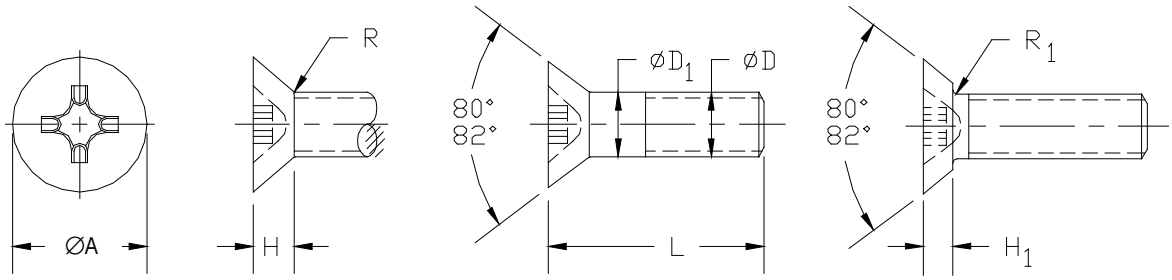
MS51959D
25 April 1997
Superseding
MS51959C
2 April 1971

MILITARY SPECIFICATION SHEET

SCREW, MACHINE, FLAT COUNTERSUNK HEAD, 82°, CROSS-RECESSED, CORROSION - RESISTANT STEEL, UNC-2A

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation: FF-S-92.



(D) Entire document revised

Table I. Dimensions and Dash Numbers.

∅D Nominal Size		.0860	.1120	.1380	.1640	.1900	.2500	.3125	.3750
Threads Per Inch UNC-2A		56	40	32	32	24	20	18	16
∅ D_1 Body Diameter	Max	.0860	.1120	.1380	.1640	.1900	.2500	.3125	.3750
	Min	.0717	.0925	.1141	.1399	.1586	.2127	.2712	.3287
∅A Head Diameter	Max Sharp	.172	.225	.279	.332	.385	.507	.635	.762
	Min Sharp	.156	.207	.257	.306	.359	.477	.600	.722
	Abs Min	.147	.195	.244	.292	.340	.452	.568	.685
H Head Height - Full Head	Ref	.051	.067	.083	.100	.116	.153	.191	.230
H_1 Head Height	Max	.036	.047	.059	.070	.081	.107	.134	161
	Min	.028	.038	.045	.058	.068	.092	.116	.140
R Radius-Full Head	Min	.034	.045	.055	.066	.076	.100	.125	.150
R_1 Radius - Undercut Head	Max	.013	.017	.021	.025	.029	.038	.047	.056
Driver Size		1	1	2	2	2	3	4	4
Tensile Strength Lbs-Min		300	480	730	1,120	1,400	2,540	4,190	6,200
L Length	Tolerance	Dash No.	Dash No.	Dash No.	Dash No.	Dash No.	Dash No.	Dash No.	Dash No.
.125		1	11	24	39				
.188		2	12	25	40	58 1/			
.250		3	13	26	41	59			
.312		4	14	27	42	60	76		
.375		5	15	28	43	61	77	92	
.438	+0	6	16	29	44	62	78	93	
.500	-.031	7	17	30	45	63	79	94	107
.625		8	18	31	46	64	80	95	108
.750		9	19	32	47	65	81	96	109
.875		10 1/	20	33	48	66	82	97	110
1.000			21	34	49	67	83	98	111
1.250			22 1/	35	50	68	84	99	112
1.500	-.062		23	36	51	69	85	100	113
1.750				37	52	70	86	101	114
2.000				38	53	71	87	102	115
2.250					54 1/	72	88	103	116
2.500	+0				55 1/	73	89	104	117
2.750	-.094				56 1/	74 1/	90 1/	105 1/	118
3.000					57 1/	75 1/	91 1/	106 1/	119

1/ Indicates manufacturer's non-stock production items

REQUIREMENTS:

1. MATERIAL: Austenitic Corrosion-Resistant Steel screws shall be manufactured from Type 302 (UNS S30200), Type 304 (UNS S30400), Type 304L (UNS S30403), Type 305 (UNS S30500), Type 316 (UNS S31600), Type 316L (UNS S31603), Type 384 (UNS S38400), or Type XM-7 (UNS S30430) in accordance with chemical composition specified in QQ-S-763 . (See Material Identification Marking and Material Code).

2. FINISH: Passivate in accordance with QQ-P-35 or Black Oxide coating (not available for Type 316 or Type 316L) in accordance with MIL-C-13924, Class 4. (See Finish Code).

3. MECHANICAL PROPERTIES: The minimum tensile strength in load pounds, indicated for each size in Table I, is based on 80,000 PSI Minimum Tensile Strength. Load pounds are calculated by the stress areas indicated in FED-STD-H28/2. The yield strength, based on .2 percent offset, shall be 30,000 psi minimum.

Requirements: (Continued)

4. MAGNETIC PERMEABILITY: When specified, screws shall have a magnetic permeability of less than 2.0 maximum (air = 1.0) for a field strength H=200 Oersteds using a magnetic permeability indicator per ASTM A 342. Note: Cold working screws may not be capable of meeting permeability and strength requirements simultaneously.

5. THREADS: Screw threads shall be Unified external threads Class 2A UNC in accordance with FED-STD-H28/2. Acceptability of screw threads shall be in accordance with FED-STD-H28/20. Threads shall extend to within two threads or less of the bearing surface of the head, except that all lengths over 2.000 inches shall have a minimum complete thread length of 1.750 inches.

6. UNDERCUT HEAD: Screws above the dashed line in Table I shall have undercut heads.

7. RECESS: Recess shall be in accordance with MS9006.

8. MATERIAL IDENTIFICATION MARKING: Type 316 (UNS S31600) or Type 316L (UNS S31603) CRES screws nominal size.1900 and larger shall be permanently marked "316". Markings shall be raised or depressed on the screw head at manufacturer's option.

9. MATERIAL CODE:

For 300 Series CRES - No code after dash number indicates any 300 Series Austenitic Corrosion-Resistant Steel listed in material requirement

For Type 316 or Type 316L CRES - "S316" after dash number indicates Austenitic Corrosion-Resistant Steel Type 316 or Type 316L.

10. FINISH CODE:

Passivate - No code letter after dash number, or after material code (if applicable) indicates passivate.

Black Oxide - "B" after dash number (not available for Type 316 or Type 316L CRES), indicates black oxide coating.

11. PART NUMBER: The part number shall consist of the basic MS number, followed by a dash number from Table I, a material code (if applicable), and a finish code (if applicable).

Examples:

MS51959-1 indicates Screw, Machine-Flat Countersunk Head, 82°, Cross-Recessed, 300 Series CRES, Passivated; .0860-56 UNC-2A Nominal Thread Size, .125 Length

MS51959-1B indicates Screw, Machine-Flat Countersunk Head, 82°, Cross-Recessed, Optional 300 Series CRES, Black Oxide Coated; .0860-56 UNC-2A Nominal Thread Size, .125 Length

MS51959-1S316 indicates Screw, Machine-Flat Countersunk Head, 82°, Cross-Recessed, Type 316 CRES; Passivated; .0860-56 UNC-2A Nominal Thread Size, .125 Length

NOTES:

1. All dimensions are in inches.

2. Interpret drawing in accordance with ASME Y14.5M.

3. 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.

4. Unless otherwise specified, issues of referenced documents are those in effect at the time of solicitation.

5. MS51959 Flat Countersunk Machine Screws manufactured prior to 25 April 1997 may be used until stock is depleted.

Military Interests:

Custodians:
Army - AR
Navy - SH
Air Force - 82

Preparing activity:
DLA - IS

(Project 5305-2129)

Reviewer:
Army - AV, AT, CR, GL, ME, MI
Navy - AS, MC, OS, YD1
National Security Agency - NSA