

USER ACTIVITIES:
ARMY - ME
NAVY - MC, SH

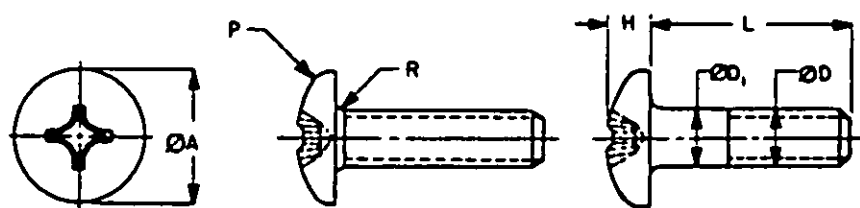


TABLE 1. DASH NUMBERS AND DIMENSIONS

Ø D NOMINAL SIZE		.12	.14	.16	.18
TREADS PER INCH		56UNC-2A	48UNC-2A	32UNC-2A	32UNC-2A
Ø D ₁ DEEP	MAX	.0860	.1120	.1380	.1640
	MIN	.0717	.0925	.1141	.1399
Ø A HEAD	MAX	.1470	.2190	.2700	.3220
	MIN	.1530	.2050	.2560	.3060
H HEAD HEIGHT	MAX	.0620	.0800	.0970	.1130
	MIN	.0530	.0700	.0870	.1030
P HEAD RADIUS	MIN	.0100	.0100	.0150	.0150
P FILLET RADIUS	MAX	.0130	.0170	.0210	.0250
DRIVER SIZE		1	1	2	2
MINIMUM TENSILE STRENGTH LOAD LBS		300	480	730	1,120
L LENGTH	TOLERANCE	DASH NO	DASH NO	DASH NO	DASH NO
		1	11	24	39
.125	+0 -.031	2	12	25	40
.168		3	13	26	41
.250		4	14	27	42
.312		5	15	28	43
.375		6	16	29	44
.438		7	17	30	45
.500		14 ^{1/2}	18 ^{1/2}	31 ^{1/2}	46 ^{1/2}
.562		8	18	31	46
.625		9	19	32	47
.750	10	20	33	48	
.875	+0 -.062	14 ^{1/2}	21 ^{1/2}	34 ^{1/2}	49 ^{1/2}
1.000		16 ^{1/2}	22 ^{1/2}	35 ^{1/2}	50 ^{1/2}
1.125		17 ^{1/2}	23 ^{1/2}	36 ^{1/2}	51 ^{1/2}
1.250		18 ^{1/2}	24 ^{1/2}	37 ^{1/2}	52 ^{1/2}
1.375		19 ^{1/2}	25 ^{1/2}	38 ^{1/2}	53 ^{1/2}
1.500		20 ^{1/2}	26 ^{1/2}	39 ^{1/2}	54 ^{1/2}
1.750	+0 -.094	23	36	51	
2.000		37	52		
2.250		38	53		
2.500				54	
2.750				55	
3.000				56	
				57	

1/ INDICATES MANUFACTURER'S NUM-STOCK PRODUCTION ITEM.
2/ INACTIVE FOR NEW DESIGN AFTER 18 JUL 86

© ENTIRE STANDARD REVISED

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Selection for all new engineering and design specifications and for replacement use shall be made from this standard when appropriate.

REVIEWED ACTIVITIES:
ARMY - AT, AV, GL, JM
AIR FORCE - 85
DLA - IS
NSA - NS

P. A. ARMY - AR Other () NAVY - YD AIR FORCE - 99	INTERNATIONAL INTEREST	TITLE SCREW, MACHINE-PAN HEAD, CROSS-RECESSED, CORROSION-RESISTANT STEEL UNC-2 A	MILITARY STANDARD
			MS51957
PROCUREMENT SPECIFICATION FF-S-92	SUPERSEDES	PAGE 1 OF 6	

APPROVED 12 DEC 63 REVISED 18 JUL 86

USER ACTIVITIES:
ARMY - ME
NAVY - MC, SH

REVIEWER ACTIVITIES:
ARMY - AT, AV, GL, MI
AIR FORCE - 85
DLA - IS
NSA - NS

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TABLE 1. DASH NUMBERS AND DIMENSIONS - CONTINUED

ØD NOMINAL SIZE		Ø10 .1900	1/4 .2500	5/16 .3125	3/8 .3750
THREADS PER INCH		24UNC-2A	20UNC-2A	18UNC-2A	16UNC-2A
ØD ₁ BODY	MAX	.1900	.2500	.3125	.3750
	MIN	.1586	.2127	.2712	.3287
ØA HEAD	MAX	.3730	.4920	.6150	.7400
	MIN	.3570	.4730	.5940	.7160
H HEAD HEIGHT	MAX	.1330	.1750	.2180	.2610
	MIN	.1220	.1620	.2030	.2440
P HEAD RADIUS		MIN	.0200	.0350	.0400
R FILLET RADIUS		MAX	.0290	.0380	.0470
DRIVER SIZE		2	3	4	4
MINIMUM TENSILE STRENGTH LOAD LBS		1,400	2,540	4,190	6,200
L LENGTH	TOLERANCE	DASH NO	DASH NO	DASH NO	DASH NO
.188	+0 -.031	52 ^{1/}			
.250		59	76		
.312		60	76		
.375		61	77	92	
.438		62	78	93	
.500	+0 -.031	63	79	94	107
.562		129 ^{2/}	132 ^{2/}	135 ^{2/}	138 ^{2/}
.625		64	80	95	108
.750		65	81	96	109
.875		66	82	97	110
1.000		67	83	98	111
1.125		130 ^{2/}	133 ^{2/}	136 ^{2/}	139 ^{2/}
1.250		68	84	99	112
1.375		131 ^{2/}	134 ^{2/}	137 ^{2/}	140 ^{2/}
1.500		69	85	100	113
1.750	+0 -.062	70	86	101	114
2.000		71	87	102	115
2.250		72	88	103	116
2.500		73	89	104	117
2.750		74 ^{2/}	90 ^{2/}	105 ^{2/}	118
3.000	+0 -.094	75 ^{2/}	91 ^{2/}	106 ^{2/}	119

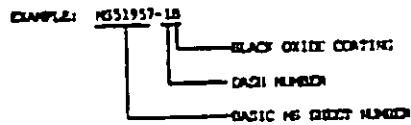
1/ INDICATES MANUFACTURER'S NON-STOCK PRODUCTION ITEMS.
2/ INACTIVE FOR NEW DESIGN AFTER

APPROVED 12 DEC 63 REVISED C FOR CHANGES SEE PAGES 1, 2, 3, 4, 5 AND 6

P. A. ARMY - AR Other Code NAVY - YD AIR FORCE - 95	INTERNATIONAL INTEREST	TITLE SCREW, MACHINE-PAN HEAD, CROSS-RECESSED, CORROSION-RESISTANT STEEL, UNC-2A	MILITARY STANDARD
			MS 51957
PROCUREMENT SPECIFICATION FF-S-92	SUPPRESSED	PAGE	2 OF 6

REQUIREMENTS:

1. **MATERIAL:** CORROSION RESISTANT STEEL, 100 SERIES, IN ACCORDANCE WITH PROCUREMENT SPECIFICATION.
2. **CLEARED, DESCALED AND PASSIVATED:** SCREWS SHALL BE CLEARED, DESCALED AND PASSIVATED IN ACCORDANCE WITH ASTM A312.
3. **PROTECTIVE COATING AND SURFACE TREATMENT:** WHEN SPECIFIED SCREWS SHALL BE BLACK OXIDE COATED IN ACCORDANCE WITH MIL-C-13957, CLASS 1. WHEN BLACK OXIDE COATING IS REQUIRED, THE DASH NUMBER SHALL BE FOLLOWED BY A "B".
4. **MAGNETIC PERMEABILITY:** SCREWS SHALL MEET THE MAGNETIC PERMEABILITY REQUIREMENTS OF THE PROCUREMENT SPECIFICATION.
5. **THREADS:** THREADS SHALL BE IN ACCORDANCE WITH FED-STD-H28/2. ACCEPTABILITY OF SCREW THREADS SHALL BE IN ACCORDANCE WITH FED-STD-H28/20, SYSTEM 21. THREADS SHALL EXTEND TO WITHIN 2 THREADS OR LESS OF THE BEARING SURFACE, EXCEPT THAT ALL LENGTHS OVER 2 INCHES SHALL HAVE A MINIMUM COMPLETE THREAD LENGTH OF 1 3/4 INCHES.
6. **ROOFS:** THE ROOFS SHALL BE IN ACCORDANCE WITH MS900A.
7. **TENSILE STRENGTH:** THE MINIMUM TENSILE STRENGTH IN LOAD POUNDS, INDICATED FOR EACH SIZE IN TABLE 1, IS BASED ON 80,000 PSI MINIMUM TENSILE STRENGTH. LOAD POUNDS ARE CALCULATED BY THE STRESS AREAS INDICATED IN FED-STD-H28/2.
8. **PART NUMBER:** THE PART NUMBER SHALL CONSIST OF THE BASIC MS SHEET NUMBER, FOLLOWED BY A DASH NUMBER FROM TABLE 1 AND A CODE LETTER "B" FOR BLACK OXIDE, IF APPLICABLE.



MS51957-1B INDICATES - SCREW, MACHINE - PAN HEAD, CROSS-RECESSED, CORROSION RESISTANT STEEL; BLACK OXIDE COATING; .0860-24UNC-2A NOMINAL THREAD SIZE; .125 THREAD LENGTH.

NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. 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.
3. REFERENCED GOVERNMENT (OR NONGOVERNMENT) DOCUMENTS OF THE ISSUE LISTED IN THAT ISSUE OF THE DEPARTMENT OF DEFENSE INDEX OF SPECIFICATIONS AND STANDARDS (DOCS) SPECIFIED IN THE SOLICITATION FORM A PART OF THIS STANDARD TO THE EXTENT SPECIFIED HEREIN.

OVER ACTIVITIES
 ARMY - MC
 NAVY - MC, SH

REVIEWER ACTIVITIES
 ARMY - AT, AV, GL, M
 AIR FORCE - (D)
 DLA - IS
 NSA - NS

This military standard is approved for use by all Departments and Agencies of the Department of Defense. Substitution for all use, engineering and design applications, and for applications not stated herein shall be made from this document when appropriate.

APPROVED 12 DEC 63 REVISED © FOR CHANGES SEE PAGES 1, 2, 3, 4, 5 AND 6

P. A. ARMY - AR Other Code NAVY - YD AIR FORCE - 99	INTERNATIONAL INTEREST	TITLE SCREW, MACHINE - PAN HEAD, CROSS-RECESSED, CORROSION-RESISTANT STEEL, UNC - 2 A	MILITARY STANDARD
			MS51957
PROCUREMENT SPECIFICATION FF-5-92	SUPERSEDES	PAGE 3 OF 6	3 OF 6

THE SCREWS COVERED BY THE DASH NUMBERS GIVEN IN MS16200, MS35216, MS35233, AN515 IN PART AND AN526 IN PART ARE CANCELLED/INACTIVATED AFTER THE DATES INDICATED ON THE DOCUMENTS. USE THE DASH NUMBERS GIVEN IN THE PRECEDING SHEETS. THE CANCELLED SCREWS CANNOT ALWAYS REPLACE THE NEW SCREWS AND SHOULD BE USED UNTIL EXISTING STOCKS ARE DEPLETED. USE ONLY THE NEW SCREWS FOR DESIGN AND REPLACEMENT. REPLACEMENT SHALL BE IN ACCORDANCE WITH THIS TABLE.

TABLE II. INTERCHANGEABILITY

CROSS REFERENCE OF PART NUMBERS						
CANCELLED						NEW
MS16200 MS35233	MS35216	AN515		AN526		MS51957
DASH NUMBER						DASH NUMBER
1	1	C2R2	C2-2			1
2	2	C2R3	C2-3			2
3	3	C2R4	C2-4			3
4	4	C2R5	C2-5			4
5	5	C2R6	C2-6			5
6	6	C2R7	C2-7			6
7	7	C2R8	C2-8			7
8	8	C2R10	C2-10			8
9	9	C2R12	C2-12			9
10						10
11	10	C3R2 thru C3R16	C3-2 thru C3-16			3/
12	11	C4R3	C4-3			11
13	12	C4R4	C4-4			12
14	13	C4R5	C4-5			13
15	14	C4R6	C4-6			14
16	15	C4R7	C4-7			15
17	16	C4R8	C4-8			16
18	17	C4R10	C4-10			17
19	18	C4R12	C4-12			18
20	19	C4R14	C4-14			20
21	20	C4R16	C4-16			21
22		C4R18	C4-18			121/
		C4R20	C4-20			22
		C4R22	C4-22			122/
		C4R24	C4-24			23
		C4R26	C4-26			2/
		C4R28	C4-28			2/
24	21	C5R3 thru C5R28	C5-3 thru C5R28			24
25	22	C6R3	C6-3			25
26	23	C6R4	C6-4	C632R4	C632-4	26
27	24	C6R5	C6-5	C632R5	C632-5	27
28	25	C6R6	C6-6	C632R6	C632-6	28
29	26	C6R7	C6-7	C632R7	C632-7	29
30	27	C6R8	C6-8	C632R8	C632-8	30
				C632R9	C632-9	123/
31	28	C6R10	C6-10	C632R10	C632-10	31
32	29	C6R12	C6-12	C632R12	C632-12	32
33	30	C6R14	C6-14	C632R14	C632-14	33
34	31	C6R16	C6-16	C632R16	C632-16	34
		C6R18	C6-18	C632R18	C632-18	124/
35	32	C6R20	C6-20	C632R20	C632-20	35
		C6R22	C6-22	C632R22	C632-22	125/
36	33	C6R24	C6-24	C632R24	C632-24	36
		C6R26	C6-26	C632R26	C632-26	3/
37	34	C6R28	C6-28	C632R28	C632-28	37
		C6R30	C6-30	C632R30	C632-30	3/
38	35	C6R32	C6-32	C632R32	C632-32	38
		C6R36	C6-36	C632R36	C632-36	3/
		C6R40	C6-40	C632R40	C632-40	3/
				C632R44	C632-44	3/
				C632R48	C632-48	3/

1/ NEW DASH NUMBERS ADDED 26 AUG 1968

2/ NO REPLACEMENT

USER ACTIVITIES:
ARMY - ME
NAVY - MC, SH

REVEWER ACTIVITIES:
ARMY - AT, AV, GL, MI
AIR FORCE - B5
DLA - IS
NSA - NS

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APPROVED 12 DEC 63 REVISED (C) FOR CHANGES SEE PAGES 1, 2, 3, 4, 5 AND 6

P. A. ARMY - AR Other Govt NAVY - YD AIR FORCE - 99	INTERNATIONAL INTEREST	TITLE SCREW, MACHINE - PAN HEAD, CROSS - RECESSED, CORROSION - RESISTANT STEEL, UNC - 2A	MILITARY STANDARD
			MS51957
PROCUREMENT SPECIFICATION FF - S - 92	SUPERSEDES	PAGE 4 OF 6	

TABLE II. INTERCHANGEABILITY - CONTINUED

CROSS REFERENCE OF PART NUMBERS							REF
CANCELLED						REF	
MS16200 MS35233	MS35216	MS15		MS26			MS1957
DASH NUMBER						DASH NUMBER	
39	36					39	
40	37					40	
41	38	CER4	CR-4	CR12R4	CR12-4	41	
42	39	CER5	CR-5	CR12R5	CR12-5	42	
43	40	CER6	CR-6	CR12R6	CR12-6	43	
44	41	CER7	CR-7	CR12R7	CR12-7	44	
45	42	CER8	CR-8	CR12R8	CR12-8	45	
46	43	CER10	CR-10	CR12R9	CR12-9	126✓	
47	44	CER12	CR-12	CR12R10	CR12-10	46	
48	45	CER14	CR-14	CR12R12	CR12-12	47	
49	46	CER16	CR-16	CR12R14	CR12-14	48	
		CER18	CR-18	CR12R16	CR12-16	49	
50	47	CER20	CR-20	CR12R18	CR12-18	127✓	
		CER22	CR-22	CR12R20	CR12-20	50	
		CER24	CR-24	CR12R22	CR12-22	128✓	
51	48	CER26	CR-26	CR12R24	CR12-24	51✓	
		CER28	CR-28	CR12R26	CR12-26		
52	49	CER28	CR-28	CR12R28	CR12-28	52✓	
		CER30	CR-30	CR12R30	CR12-30		
53	50	CER32	CR-32	CR12R32	CR12-32	53	
54		CER34	CR-34	CR12R34	CR12-34	54	
55		CER40	CR-40	CR12R40	CR12-40	55	
56		CER44	CR-44	CR12R44	CR12-44	56	
57		CER48	CR-48	CR12R48	CR12-48	57	
58						58	
59	51	C10R4	C10-4	C1024R4	C1024-4	59	
60	52	C10R5	C10-5	C1024R5	C1024-5	60	
61	53	C10R6	C10-6	C1024R6	C1024-6	61	
62	54	C10R7	C10-7	C1024R7	C1024-7	62	
63	55	C10R8	C10-8	C1024R8	C1024-8	63	
				C1024R9	C1024-9	129✓	
64	56	C10R10	C10-10	C1024R10	C1024-10	64	
65	57	C10R12	C10-12	C1024R12	C1024-12	65	
66	58	C10R14	C10-14	C1024R14	C1024-14	66	
67	59	C10R16	C10-16	C1024R16	C1024-16	67	
68	60	C10R18	C10-18	C1024R18	C1024-18	130✓	
		C10R20	C10-20	C1024R20	C1024-20	68	
69	61	C10R22	C10-22	C1024R22	C1024-22	131✓	
		C10R24	C10-24	C1024R24	C1024-24	69	
		C10R26	C10-26	C1024R26	C1024-26	70	
70	62	C10R28	C10-28	C1024R28	C1024-28	70✓	
		C10R30	C10-30	C1024R30	C1024-30		
71	63	C10R32	C10-32	C1024R32	C1024-32	71	
72	64	C10R34	C10-34	C1024R34	C1024-34	72	
73	65	C10R40	C10-40	C1024R40	C1024-40	73	
74		C10R44	C10-44	C1024R44	C1024-44	74	
75		C10R48	C10-48	C1024R48	C1024-48	75	
76	66	C416R5	C416-5	C420R5	C420-6	76	
77	67	C416R6	C416-6	C420R6	C420-7	77	
78	68	C416R7	C416-7	C420R7	C420-8	78	
79	69	C416R8	C416-8	C420R8	C420-9	79	
				C420R9	C420-10	132✓	
80	70	C416R10	C416-10	C420R10	C420-10	80	
81	71	C416R12	C416-12	C420R12	C420-12	81	
82	72	C416R14	C416-14	C420R14	C420-14	82	
83	73	C416R16	C416-16	C420R16	C420-16	83	
		C416R18	C416-18	C420R18	C420-18	133✓	

✓ NON DASH NUMBERS ADDED 26 AUG 1968.
 ✗ NO REPLACEMENT

USER ACTIVITIES:
 ARMY - ME
 NAVY - MC, SH

REVERSE ACTIVITIES:
 ARMY - AT, AV, CL, M1
 AIR FORCE - B5
 OLA - IS
 NSA - NS

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P. A. ARMY - AR Other Code NAVY - YD AIR FORCE - 99	INTERNATIONAL INTEREST	TITLE	MILITARY STANDARD
		SCREW, MACHINE-PAN HEAD, CROSS-RECESSED, CORROSION-RESISTANT STEEL, UNC-2 A	MS 51957
PROCUREMENT SPECIFICATION FF-5-92	SUPPRESSED	PAGE	5 OF 6

APPROVED 12 DEC 63 REVISED FOR CHANGES SEE PAGES 1, 2, 3, 4, 5 AND 6

TABLE 11. INTERCHANGEABILITY - CONTINUED

CROSS REFERENCE OF PART NUMBERS						
CANCELLED						NEW
MS16200 MS35233	MS35216	MS15		MS26	MS51957	
DASH NUMBER						DASH NUMBER
84	74	C416R20	C416-20	C420R20	C420-20	84
		C416R22	C416-22	C420R22	C420-22	134 ✓
85	75	C416R24	C416-24	C420R24	C420-24	85
		C416R26	C416-26	C420R26	C420-26	✓
86	76	C416R28	C416-28	C420R28	C420-28	86
		C416R30	C416-30	C420R30	C420-30	✓
87	77	C416R32	C416-32	C420R32	C420-32	87
88	78	C416R36	C416-36	C420R36	C420-36	88
89	79	C416R40	C416-40	C420R40	C420-40	89
90		C416R44	C416-44	C420R44	C420-44	90
91		C416R48	C416-48	C420R48	C420-48	91
92	80					92
93	81					93
94	82	CS16R8	CS16-8			94
95	83	CS16R10	CS16-10			95
96	84	CS16R12	CS16-12			96
97	85	CS16R14	CS16-14			97
98	86	CS16R16	CS16-16			98
		CS16R18	CS16-18			136 ✓
99	87	CS16R20	CS16-20			99
		CS16R22	CS16-22			137 ✓
100	88	CS16R24	CS16-24			100 ✓
		CS16R26	CS16-26			✓
101	89	CS16R28	CS16-28			101 ✓
		CS16R30	CS16-30			✓
102	90	CS16R32	CS16-32			102
103	91	CS16R36	CS16-36			103
104	92	CS16R40	CS16-40			104
105		CS16R44	CS16-44			105
106		CS16R48	CS16-48			106
107	93	CS16R8	CS16-8			107
108	94	CS16R10	CS16-10			108
109	95	CS16R12	CS16-12			109
110	96	CS16R14	CS16-14			110
111	97	CS16R16	CS16-16			111
		CS16R18	CS16-18			138 ✓
112	98	CS16R20	CS16-20			112
		CS16R22	CS16-22			140 ✓
113	99	CS16R24	CS16-24			113
		CS16R26	CS16-26			✓
114	100	CS16R28	CS16-28			114
						✓
115	101	CS16R30	CS16-30			115
116	102	CS16R32	CS16-32			116
117	103	CS16R36	CS16-36			117
118	104	CS16R40	CS16-40			118
119	105	CS16R44	CS16-44			119
		CS16R48	CS16-48			✓

✓ NEW DASH NUMBERS ADDED 26 AUG 1968

✓ NO REPLACEMENT

USNA ACTIVITIES:
ARMY - ME
NAVY - MC, SH

REVISOR ACTIVITIES:
ARMY - AT, AV, GL, MI
AIR FORCE - 85
DLA - IS
NSA - NS

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APPROVED 12 DEC 63 REVISED © FOR CHANGES SEE PAGES 1, 2, 3, 4, 5 AND 6

P. A. ARMY - AR Other Code NAVY - YD AIR FORCE - 99	INTERNATIONAL INTEREST	TITLE SCREW, MACHINE-PAN HEAD, CROSS-RECESSED, CORROSION-RESISTANT STEEL, UNC-2A	MILITARY STANDARD
			MS51957
PROCUREMENT SPECIFICATION FF-S-92	SUPERSEDED	PAGE 6 OF 6	