

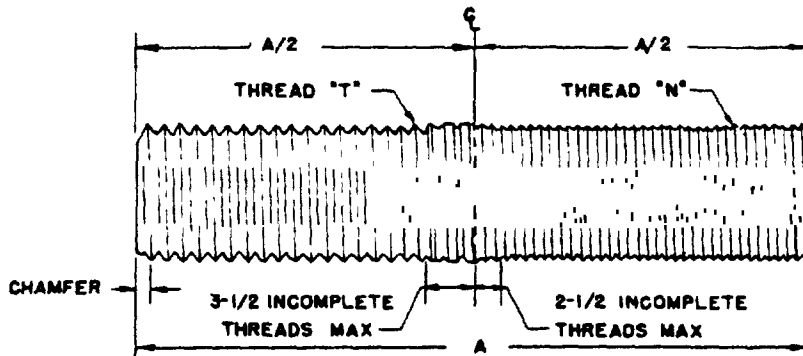
FED SUP CLASS
5307

TABLE I - (TAP END THREAD DESIGNATION CLASS 5HF)

DASH NO (STEEL)	TAP END THREAD NC-5 HF	NUT END THREAD UNF-2A
102	2500-20	2500-29
103	3125-18	3125-24
104	3750-16	3750-24
105	4375-14	4375-20
106	5000-13	5000-20
107	5625-12	5625-18
108	6250-11	6250-18
109	7500-10	7500-16
110	8750-9	8750-14
111	1 0000-8	1 0000-12
112	1 1250-7	1 1250-12
113	1 2500-7	1 2500-12

TABLE II - (TAP END THREAD DESIGNATION CLASS 5CSF)

DASH NO		TAP END THREAD NC-5 CSF	NUT END THREAD UNF-2A
(CRES)	(BRASS)		
202	302	2500-20	2500-28
203	303	3125-18	3125-24
204	304	3750-16	3750-24
205	305	4375-14	4375-20
206	306	5000-13	5000-20
207	307	5625-12	5625-18
208	308	6250-11	6250-18
209	309	7500-10	7500-16
210	310	8750-9	8750-14
211	311	1 0000-8	1 0000-12
212	312	1 1250-7	1 1250-12
213	313	1 2500-7	1 2500-12

TABLE IIF - (TAP END THREAD DESIGNATION CLASS 5ONF)

DASH NO (NI-CU)	TAP END THREAD NC-5 ONF	NUT END THREAD UNF-2A
402	2500-20	2500-28
404	3750-16	3750-24
406	5000-13	5000-20
408	6250-11	6250-18
409	7500-10	7500-16
410	8750-9	8750-14
411	1 0000-8	1 0000-12
412	1 1250-7	1 1250-12
413	1 2500-7	1 2500-12

NOTES

- MATERIAL** Steel, carbon or alloy, per Federal Standard No 66 Steel, corrosion resisting, per Federal Standard No 66, 300 Series. Brass, per QQ-8-637, Composition 1 Nickel-copper alloy, per QQ-N-281, Class B, cold drawn or equivalent.
- PROTECTIVE COATING** Steel, carbon or alloy, cadmium plated per QQ-P-416, Type II, Class 3 Steel, corrosion resisting, passivated per QQ-P-35 Brass, oxide or black finish per MIL-F-495
- THREADS** NC-5 threads shall conform to NBS Handbook H29 Part III UNF-2A threads shall conform to NBS Handbook H28 Part I
- MECHANICAL PROPERTIES** Studs shall be capable of developing mechanical properties in accordance with the procurement specification. Tensile strengths and pertinent length dash numbers are listed below

Material	Min Tensile Strength PSI	Dash Numbers
Steel, carbon or alloy		
Sizes 1/4 thru 1	120,000	102-113
Over 1 to 1-1/2	105,000	202-213
Steel, cres	80,000	302-313
Brass	60,000	402-413
Nickel-copper alloy	80,000	

- HARDNESS** Steel, carbon or alloy, Rockwell C19 minimum Steel, cres, Brinell 140 minimum Brass, Rockwell B65 minimum Nickel-copper alloy, Rockwell B80 minimum
- CHAMFER** 45° to 50° angle from the outside diameter to 1/64 to 1/32 inch below root diameter of thread

- DIMENSIONS** Dimensions in inches, to be met after plating

- LENGTH TOLERANCES** Studs 6 inches and under ± .125 inch Studs over 6 inches ± .188 inch

- PART NUMBERS** The MS part number consists of the MS number, plus the dash number, plus the second dash number for length (table IV) Example

MS51864-102-16 stud, carbon or alloy steel, 2500 inch dia, 2 inch length.

MS51864-204-18 stud, cres, 3750 inch dia, 2.250 inch length

MS51864-306-20 stud, brass, 5000 inch dia, 2.500 inch length

MS51864-409-30 stud, nickel-copper alloy, 7500 inch dia, 3.750 inch length

- For design feature purposes, this standard takes preference over procurement documents referenced herein.

- Referenced documents shall be of the issue in effect on date of invitations for bid

- Illustration is for identification and not intended to restrict design and shapes of studs which otherwise conform to requirements

PA	WC	TITLE	MILITARY STANDARD
Other Cost	M2	STUD - PLAIN, GENERAL PURPOSE	MS51864
PROCUREMENT SPECIFICATION FF-S-1362	SUPERSEDES MS15986, MS15987, MS15988, MS15989, MS15990		SHEET 1 OF 4
	MS15991		

DD FORM 672-1 (Continued)

REVISIONS LISTED BY THE FORM AND NUMBER

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TABLE IV

LENGTH DASH NUMBER	DIAMETER DASH NUMBERS											
	102 202 302 402		103 203 303		104 204 304 404		105 205 305		106 206 306 406		107 207 307	
	A	A/2	A	A/2	A	A/2	A	A/2	A	A/2	A	A/2
12	1 500	750										
14	1 750	875	1 750	875								
16	2 000	1 000	2 000	1 000	2 000	1 000						
18	2 250	1 125	2 250	1 125	2 250	1 125	2 250	1 125				
20	2 500	1 250	2 500	1 250	2 500	1 250	2 500	1 250	2 500	1 250		
22	2 750	1 375	2 750	1 375	2 750	1 375	2 750	1 375	2 750	1 375	2 750	1 375
24	3 000	1 500	3 000	1 500	3 000	1 500	3 000	1 500	3 000	1 500	3 000	1 500
26					3 250	1 625	3 250	1 625	3 250	1 625	3 250	1 625
28					3 500	1 750	3 500	1 750	3 500	1 750	3 500	1 750
30					3 750	1 875	3 750	1 875	3 750	1 875	3 750	1 875
32					4 000	2 000	4 000	2 000	4 000	2 000	4 000	2 000
34									4 250	2 125	4 250	2 125
36									4 500	2 250	4 500	2 250
38									4 750	2 375	4 750	2 375
40									5 000	2 500	5 000	2 500
42									5 250	2 625	5 250	2 625
44									5 500	2 750	5 500	2 750
46									6 000	3 000	6 000	3 000

LENGTH DASH NUMBER	DIAMETER DASH NUMBERS											
	108 208 308 408		109 209 309 409		110 210 310 410		111 211 311 411		112 212 312 412		113 213 313 413	
	A	A/2	A	A/2	A	A/2	A	A/2	A	A/2	A	A/2
24	3 000	1 500										
26	3 250	1 625										
28	3 500	1 750	3 500	1 750								
30	3 750	1 875	3 750	1 875								
32	4 000	2 000	4 000	2 000	4 000	2 000						
34	4 250	2 125	4 250	2 125	4 250	2 125						
36	4 500	2 250	4 500	2 250	4 500	2 250	4 500	2 250				
38	4 750	2 375	4 750	2 375	4 750	2 375	4 750	2 375	4 750	2 375		
40	5 000	2 500	5 000	2 500	5 000	2 500	5 000	2 500	5 000	2 500		
42	5 250	2 625	5 250	2 625	5 250	2 625	5 250	2 625	5 250	2 625	5 250	2 625
44	5 500	2 750	5 500	2 750	5 500	2 750	5 500	2 750	5 500	2 750	5 500	2 750
46	6 000	3 000	6 000	3 000	6 000	3 000	6 000	3 000	6 000	3 000	6 000	3 000
52									6 500	3 250	6 500	3 250
56									7 000	3 500	7 000	3 500
60									7 500	3 750	7 500	3 750
64									8 000	4 000	8 000	4 000

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P.A. NC Other Code 82	TITLE STUD - PLAIN, GENERAL PURPOSE	MILITARY STANDARD MS51864
PROCUREMENT SPECIFICATION FF-S-1362	SUPERSEDES MS15991	SHEET 2 OF

DD FORM 672-1 (Continued)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

REVIEW AV, IS, NSA, 85
USER AT, CE, EL, MC, ME, MI, OS, SN

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TABLE V - INTERCHANGEABILITY

The studs covered by dash numbers given in the original issues of MS15986, MS15987, MS15988, MS15990, MS15991, and Revision A of MS15989, are cancelled after the original date of this document. Use the dash numbers given in the preceding sheets. The cancelled studs cannot always replace the new studs and should be used until existing stocks are depleted. Use only the new studs for new design and replacement. Replacement shall be in accordance with this table.

CROSS REFERENCE

CANCELLED				NEW		CANCELLED				NEW		CANCELLED				NEW			
MS15986		MS15986 MS15989		MS51864		MS15986		MS15986 MS15989		MS51864		MS15986		MS15986 MS15989		MS51864			
F11*	FC11*	FP11*	102-12	J21*	JC21*	JP21*	105-22	N34	NC34	NP34	108-34	F12	FC12	FP12	105-22	N36	NC36	NP36	108-36
F12	FC12	FP12	102-12	J22	JC22	JP22	105-22	N38	NC38	NP38	108-38	F13*	FC13*	FP13*	102-14	N40	NC40	NP40	108-40
F13*	FC13*	FP13*	102-14	J23*	JC23*	JP23*	105-24	N44	NC44	NP44	108-44	F14	FC14	FP14	102-14	N48	NC48	NP48	108-48
F14	FC14	FP14	102-14	J24	JC24	JP24	105-24					F15*	FC15*	FP15*	102-16				
F15*	FC15*	FP15*	102-16	J26	JC26	JP26	105-26					F16	FC16	FP16	102-16				
F16	FC16	FP16	102-16	J28	JC28	JP28	105-28					F17*	FC17*	FP17*	102-18				
F17*	FC17*	FP17*	102-18	J30	JC30	JP30	105-30					F18	FC18	FP18	102-18				
F18	FC18	FP18	102-18	J32	JC32	JP32	105-32					F19*	FC19*	FP19*	102-20				
F19*	FC19*	FP19*	102-20									F20	FC20	FP20	102-20				
F20	FC20	FP20	102-20									F21*	FC21*	FP21*	102-22				
F21*	FC21*	FP21*	102-22	K19*	KC19*	KP19*	106-20					F22	FC22	FP22	102-22				
F22	FC22	FP22	102-22	K20	KC20	KP20	106-20					F23*	FC23*	FP23*	102-24				
F23*	FC23*	FP23*	102-24	K21*	KC21*	KP21*	106-22					F24	FC24	FP24	102-24				
F24	FC24	FP24	102-24	K22	KC22	KP22	106-22												
				K23*	KC23*	KP23*	106-24												
				K24	KC24	KP24	106-24												
				K26	KC26	KP26	106-26												
				K28	KC28	KP28	106-28												
				K30	KC30	KP30	106-30												
				K32	KC32	KP32	106-32												
				K34	KC34	KP34	106-34												
				K36	KC36	KP36	106-36												
				K38	KC38	KP38	106-38												
				K40	KC40	KP40	106-40												
				K44	KC44	KP44	106-44												
				K48	KC48	KP48	106-48												
				M21*	MC21*	MP21*	107-22	R36	RC36	RP36	111-36								
				M22	MC22	MP22	107-22	R38	RC38	RP38	111-38								
				M23*	MC23*	MP23*	107-24	R40	RC40	RP40	111-40								
				M24	MC24	MP24	107-24	R44	RC44	RP44	111-44								
				M26	MC26	MP26	107-26	R48	RC48	RP48	111-48								
				M28	MC28	MP28	107-28												
				M30	MC30	MP30	107-30												
				M32	MC32	MP32	107-32	S38	SC38	SP38	112-38								
				M34	MC34	MP34	107-34	S40	SC40	SP40	112-40								
				M36	MC36	MP36	107-36	S44	SC44	SP44	112-44								
				M38	MC38	MP38	107-38	S48	SC48	SP48	112-48								
				M40	MC40	MP40	107-40	S52	SC52	SP52	112-52								
				M44	MC44	MP44	107-44	S56	SC56	SP56	112-56								
				M48	MC48	MP48	107-48	S60	SC60	SP60	112-60								
								S64	SC64	SP64	112-64								
				N23*	NC23*	NP23*	108-24	T44	TC44	TP44	113-44								
				N24	NC24	NP24	108-24	T48	TC48	TP48	113-48								
				N26	NC26	NP26	108-26	T52	TC52	TP52	113-52								
				N28	NC28	NP28	108-28	T56	TC56	TP56	113-56								
				N30	NC30	NP30	108-30	T60	TC60	TP60	113-60								
				N32	NC32	NP32	108-32	T64	TC64	TP64	113-64								
J17*	JC17*	JP17*	105-18																
J18	JC18	JP18	105-18																
J19*	JC19*	JP19*	105-20																
J20	JC20	JP20	105-20																

* Next higher increment is indicated and recommended for replacement

P.A. NO.		TITLE		MILITARY STANDARD	
Other Case 82		STUD - PLAIN, GENERAL PURPOSE		MS51864	
PROCUREMENT SPECIFICATION FF-S-1362		SUPERSEDES MS15986, MS15987, MS15988, MS15989, MS15990, MS15991.		SHEET J OF	

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REVIEW AV, IS, NSA, 85
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TABLE 4 - INTERCHANGABILITY (CONTINUED)

CROSS REFERENCE			
CANCELLED	NEW	CANCELLED	NEW
MS15987 MS15990	MS51864	MS15987 MS15990	MS51864
F12	302-12	M18	307-36
F14	302-14	M40	307-40
F16	302-16	M44	307-44
F18	302-18	M48	307-48
F20	302-20		
F22	302-22	N24	308-24
F24	302-24	N26	308-26
		N28	308-28
C14	303-14	N30	308-30
C16	303-16	N32	308-32
C18	303-18	N34	308-34
C20	303-20	N36	308-36
C22	303-22	N38	308-38
C24	303-24	N40	308-40
		N44	308-44
		N48	308-48
M16	304-16		
M18	304-18		
M20	304-20		
M22	304-22	P28	309-28
M24	304-24	P30	309-30
M26	304-26	P32	309-32
M28	304-28	P34	309-34
M30	304-30	P36	309-36
M32	304-32	P38	309-38
		P40	309-40
		P44	309-44
		P48	309-48
J18	305-18		
J20	305-20		
J22	305-22	Q32	310-32
J24	305-24	Q34	310-34
J26	305-26	Q36	310-36
J28	305-28	Q38	310-38
J30	305-30	Q40	310-40
J32	305-32	Q44	310-44
		Q48	310-48
K20	306-20		
K22	306-22	R36	311-36
K24	306-24	R38	311-38
K26	306-26	R40	311-40
K28	306-28	R44	311-44
K30	306-30	R48	311-48
K32	306-32		
K34	306-34	S38	312-38
K36	306-36	S40	312-40
K38	306-38	S44	312-44
K40	306-40	S48	312-48
K44	306-44	S52	312-52
K48	306-48	S56	312-56
		S60	312-60
		S64	312-64
M22	307-22		
M24	307-24		
M26	307-26	T44	313-44
M28	307-28	T48	313-48
M30	307-30	T52	313-52
M32	307-32	T56	313-56
M34	307-34	T60	313-60
M36	307-36	T64	313-64

CROSS REFERENCE		
CANCELLED	NEW	
MS15987 MS15991	MS51864	
F12	F12	402-12
F14	F14	402-14
F16	F16	402-16
F18	F18	402-18
F20	F20	402-20
F22	F22	402-22
F24	F24	402-24
M16	M16	404-16
M18	M18	404-18
M20	M20	404-20
M22	M22	404-22
M24	M24	404-24
M26	M26	404-26
M28	M28	404-28
M30	M30	404-30
M32	M32	404-32
J20	K20	406-20
J22	K22	406-22
J24	K24	406-24
J26	K26	406-26
J28	K28	406-28
J30	K30	406-30
J32	K32	406-32
J34	K34	406-34
J36	K36	406-36
J38	K38	406-38
J40	K40	406-40
J44	K44	406-44
J48	K48	406-48
M24	N24	408-24
M26	N26	408-26
M28	N28	408-28
M30	N30	408-30
M32	N32	408-32
M34	N34	408-34
M36	N36	408-36
M38	N38	408-38
M40	N40	408-40
M44	N44	408-44
M46	N46	408-46

REF ID: A1, IS, NSA, P5
(SPR AT, UT, EL, MG, ME, MI, CS, SH

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