

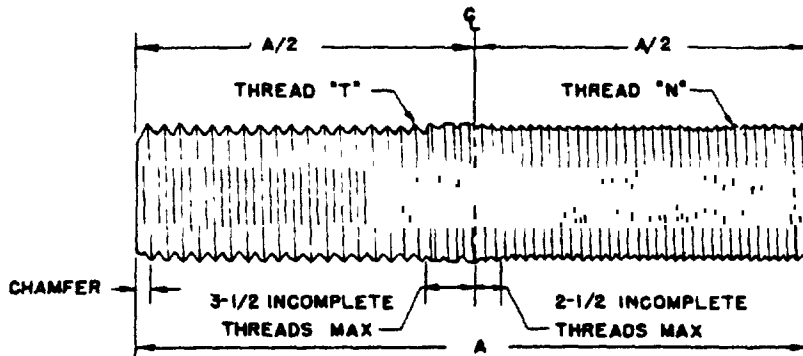
FED SUP CLASS
5307

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 5 CSF)

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 5 ONF)

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	
Over 1 to 1-1/2	105,000	102-113
Steel, cros	80,000	202-213
Brass	60,000	302-313
Nickel-copper alloy	80,000	402-413

- HARDNESS** Steel, carbon or alloy, Rockwell C19 minimum Steel, cros, 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, cros, 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)

REPLACES DD FORM 672-1, 1-64

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MEVIN AV, IS, NSA, BS AT, CE, EL, MC, ME, MI, OS, SH

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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									6 000	3 000	6 000	3 000
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

APPROVED 30 APR 1970 REVISED

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)

PROVIDES LISTING OF THIS FORM AND ORIGIN, ETC.

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

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 of the Department of Defense. Selection for all new engineering and design
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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	MS15986		MS15986 MS15989	MS51864								
F11*	FC11*	FP11*	102-12	J21*	JC21*	JP21*	105-22	V34	VC34	NP34	108-34	F12	FC12	FP12	102-12	J22	JC22	JP22	105-22	V36	VC36	NP36	108-36
F13*	FC13*	FP13*	102-14	J23*	JC23*	JP23*	105-24	V38	VC38	NP38	108-38	F14	FC14	FP14	102-14	J24	JC24	JP24	105-24	V40	VC40	NP40	108-40
F15*	FC15*	FP15*	102-16	J26	JC26	JP26	105-26	V44	VC44	NP44	108-44	F16	FC16	FP16	102-16	J28	JC28	JP28	105-28	V48	VC48	NP48	108-48
F17*	FC17*	FP17*	102-18	J30	JC30	JP30	105-30					F18	FC18	FP18	102-18	J32	JC32	JP32	105-32				
F19*	FC19*	FP19*	102-20					P28	PC28	PP28	109-28	F19*	FC19*	FP19*	102-20					P30	PC30	PP30	109-30
F20	FC20	FP20	102-20					P32	PC32	PP32	109-32	F20	FC20	FP20	102-20					P34	PC34	PP34	109-34
F21*	FC21*	FP21*	102-22	K19*	KC19*	KP19*	106-20	P36	PC36	PP36	109-36	F21*	FC21*	FP21*	102-22	K20	KC20	KP20	106-20	P38	PC38	PP38	109-38
F22	FC22	FP22	102-22	K21*	KC21*	KP21*	106-22	P40	PC40	PP40	109-40	F22	FC22	FP22	102-22	K22	KC22	KP22	106-22	P44	PC44	PP44	109-44
F23*	FC23*	FP23*	102-24	K23*	KC23*	KP23*	106-24	P48	PC48	PP48	109-48	F23*	FC23*	FP23*	102-24	K24	KC24	KP24	106-24				
F24	FC24	FP24	102-24	K26	KC26	KP26	106-26					F24	FC24	FP24	102-24	K28	KC28	KP28	106-28				
G13*	GC13*	GP13*	103-14	K30	KC30	KP30	106-30	Q32	QC32	QP32	110-32	G13*	GC13*	GP13*	103-14	K32	KC32	KP32	106-32	Q34	QC34	QP34	110-34
G14	GC14	GP14	103-14	K34	KC34	KP34	106-34	Q36	QC36	QP36	110-36	G14	GC14	GP14	103-14	K36	KC36	KP36	106-36	Q38	QC38	QP38	110-38
G15*	GC15*	GP15*	103-16	K38	KC38	KP38	106-38	Q40	QC40	QP40	110-40	G15*	GC15*	GP15*	103-16	K40	KC40	KP40	106-40	Q44	QC44	QP44	110-44
G16	GC16	GP16	103-16	K44	KC44	KP44	106-44	Q48	QC48	QP48	110-48	G16	GC16	GP16	103-16	K48	KC48	KP48	106-48				
G17*	GC17*	GP17*	103-18	M21*	MC21*	MP21*	107-22	R36	RC36	RP36	111-36	G17*	GC17*	GP17*	103-18	M22	MC22	MP22	107-22	R38	RC38	RP38	111-38
G18	GC18	GP18	103-18	M23*	MC23*	MP23*	107-24	R40	RC40	RP40	111-40	G18	GC18	GP18	103-18	M24	MC24	MP24	107-24	R44	RC44	RP44	111-44
G19*	GC19*	GP19*	103-20	M26	MC26	MP26	107-26	R48	RC48	RP48	111-48	G19*	GC19*	GP19*	103-20	M28	MC28	MP28	107-28				
G20	GC20	GP20	103-20	M30	MC30	MP30	107-30					G20	GC20	GP20	103-20	M32	MC32	MP32	107-32	S38	SC38	SP38	112-38
G21*	GC21*	GP21*	103-22	M34	MC34	MP34	107-34	S40	SC40	SP40	112-40	G21*	GC21*	GP21*	103-22	M36	MC36	MP36	107-36	S44	SC44	SP44	112-44
G22	GC22	GP22	103-22	M38	MC38	MP38	107-38	S48	SC48	SP48	112-48	G22	GC22	GP22	103-22	M40	MC40	MP40	107-40	S52	SC52	SP52	112-52
G23*	GC23*	GP23*	103-24	M44	MC44	MP44	107-44	S56	SC56	SP56	112-56	G23*	GC23*	GP23*	103-24	M48	MC48	MP48	107-48	S60	SC60	SP60	112-60
G24	GC24	GP24	103-24	N23*	NC23*	NP23*	108-24	S64	SC64	SP64	112-64	G24	GC24	GP24	103-24	N24	NC24	NP24	108-24	T44	TC44	TP44	113-44
H15*	HC15*	HP15*	104-16	N28	NC28	NP28	108-28	T48	TC48	TP48	113-48	H15*	HC15*	HP15*	104-16	N30	NC30	NP30	108-30	T52	TC52	TP52	113-52
H16	HC16	HP16	104-16	N32	NC32	NP32	108-32	T60	TC60	TP60	113-60	H16	HC16	HP16	104-16	N38	NC38	NP38	108-38	T56	TC56	TP56	113-56
H17*	HC17*	HP17*	104-18	N48	NC48	NP48	107-48	T64	TC64	TP64	113-64	H17*	HC17*	HP17*	104-18								
H18	HC18	HP18	104-18									H18	HC18	HP18	104-18								
H19*	HC19*	HP19*	104-20									H19*	HC19*	HP19*	104-20								
H20	HC20	HP20	104-20									H20	HC20	HP20	104-20								
H21*	HC21*	HP21*	104-22									H21*	HC21*	HP21*	104-22								
H22	HC22	HP22	104-22									H22	HC22	HP22	104-22								
H23*	HC23*	HP23*	104-24									H23*	HC23*	HP23*	104-24								
H24	HC24	HP24	104-24									H24	HC24	HP24	104-24								
H26	HC26	HP26	104-26									H26	HC26	HP26	104-26								
H28	HC28	HP28	104-28									H28	HC28	HP28	104-28								
H30	HC30	HP30	104-30									H30	HC30	HP30	104-30								
H32	HC32	HP32	104-32									H32	HC32	HP32	104-32								
J17*	JC17*	JP17*	105-18									J17*	JC17*	JP17*	105-18								
J18	JC18	JP18	105-18									J18	JC18	JP18	105-18								
J19*	JC19*	JP19*	105-20									J19*	JC19*	JP19*	105-20								
J20	JC20	JP20	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	

DD FORM 672-1 (Continued)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

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

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TABLE 4 - INTERCHANGABILITY (CONTINUED)

CROSS REFERENCE				CROSS REFERENCE			
CANCELLED	NEW	CANCELLED	NEW	CANCELLED	NEW	CANCELLED	NEW
MS15987 MS15990	MS51864	MS15987 MS15990	MS51864	MS15987 MS15991	MS51864	MS15987 MS15991	MS51864
F12 F14 F16 F18 F20 F22 F24	302-12 302-14 302-16 302-18 302-20 302-22 302-24	M38 M40 M44 M48	307-36 307-40 307-44 307-48	F12 F14 F16 F18 F20 F22 F24	402-12 402-14 402-16 402-18 402-20 402-22 402-24	M46 M48	408-46 408-48
C14 C16 C18 C20 C22 C24	303-14 303-16 303-18 303-20 303-22 303-24	N24 N26 N28 N30 N32 N34 N36 N38 N40 N44 N48	308-24 308-26 308-28 308-30 308-32 308-34 308-36 308-38 308-40 308-44 308-48	M16 M18 M20 M22 M24 M26 M28 M30 M32	404-16 404-18 404-20 404-22 404-24 404-26 404-28 404-30 404-32	P26 P28 P30 P32 P34 P36 P38 P40 P44 P48	409-26 409-28 409-30 409-32 409-34 409-36 409-38 409-40 409-44 409-46
H16 H18 H20 H22 H24 H26 H28 H30 H32	304-16 304-18 304-20 304-22 304-24 304-26 304-28 304-30 304-32	P26 P30 P32 P34 P36 P38 P40 P44 P48	309-26 309-30 309-32 309-34 309-36 309-38 309-40 309-44 309-48	J20 J22 J24 J26 J28 J30 J32	K20 K22 K24 K26 K28 K30 K32	Q36 Q38 Q40 Q44 Q48	R36 R38 R40 R44 R48
K20 K22 K24 K26 K28 K30 K32 K34 K36 K40 K44 K48	306-20 306-22 306-24 306-26 306-28 306-30 306-32 306-34 306-36 306-38 306-40 306-44 306-48	R36 R38 R40 R44 R48	311-36 311-38 311-40 311-44 311-48	M24 M26 M28 M30 M32 M34 M36 M38 M40 M44	408-24 408-26 408-28 408-30 408-32 408-34 408-36 408-38 408-40 408-44	S44 S48 S52 S56 S60 S64	T44 T48 T52 T56 T60 T64
M22 M24 M26 M28 M30 M32 M34 M36	307-22 307-24 307-26 307-28 307-30 307-32 307-34 307-36	T44 T48 T52 T56 T60 T64	313-44 313-46 313-48 313-50 313-52 313-54 313-56 313-64				

P.A. NO.	TITLE	MILITARY STANDARD
Other Cont. 82	STUD - PLAIN, GENERAL PURPOSE	MS51864
PROCUREMENT SPECIFICATION FF-S-1362	SUPPLEMENT MS15987, MS15988, MS15989, MS15990	SHEET 4 OF

REF ID: A1, IS, NSA, R5
(SPR AT, UT, EL, MC, ME, MI, CS, SH

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