

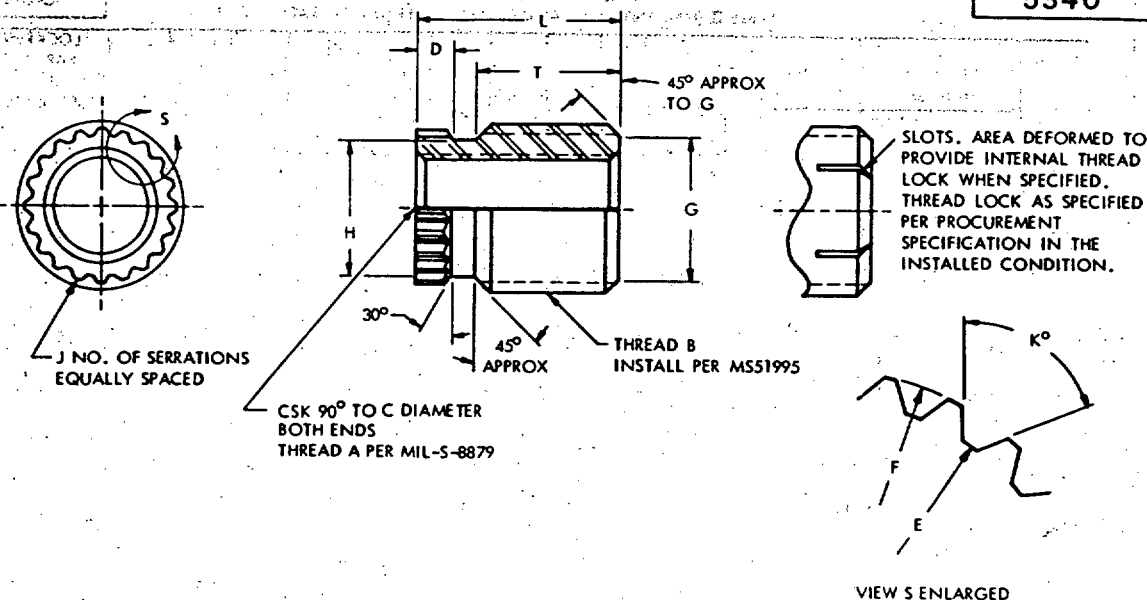
FED. SUP CLASS  
5340

TABLE I (COARSE INTERNAL AND COARSE EXTERNAL THREADS)

DASH NO.	A INTERNAL THD UNJC-38		B EXTERNAL THD SEE THREAD NOTE			C	D ± .015	E DIA + .005 - .004	F DIA + .007 - .002	G DIA	H DIA	J	K° +2° -1°	L ± .015	T ± .015	LOCKING PART NO. (REF) SEE NOTE 15
	SIZE	MINOR DIA(REF)	SIZE	PITCH DIA	MINOR DIA											
-102	.1120-40	.0942 .0877	.1900-24	.1648 .1633	.1407 .1334	.122 .117	.060	.152	.175	.138 .133	.148	14	102°	.250	.150	MS51990-102P
-103	.1380-32	.1157 .1076	.2160-24	.1908 .1893	.1667 .1594	.149 .144	.080	.178	.201	.164 .159	.175	16	90°	.310	.190	MS51990-103P
-104	.1640-32	.1417 .1336	.2500-20	.2198 .2178	.1909 .1824	.175 .170	.080	.203	.230	.187 .182	.197	13	102°	.380	.250	MS51990-104P
-105	.1900-24	.1600 .1494	.3125-18	.2789 .2769	.2468 .2373	.208 .198	.090	.255	.284	.237	.248	17	86°	.440	.290	MS51990-105P
-106	.2500-20	.2121 .2013	.3750-16	.3372 .3347	.3011 .2906	.270 .260	.110	.316	.345	.291	.305	20	102°	.500	.330	MS51990-106P
-107	.3125-18	.2690 .2584	.5000-13	.4531 .4506	.4087 .3963	.339 .324	.120	.380	.407	.396	.370	24	102°	.560	.360	MS51990-107P
-108	.3750-16	.3251 .3142	.5625-12	.5116 .5091	.4635 .4503	.402 .387	.120	.456	.487	.425	.445	26	102°	.620	.420	MS51990-108P
-109	.4375-14	.3795 .3680	.6250-11	.5693 .5668	.5168 .5028	.466 .451	.140	.567	.601	.503	.553	26	111°	.690	.460	MS51990-109P
-110	.5000-13	.4368 .4251	.7500-10	.6885 .6860	.6308 .6156	.530 .515	.160	.687	.721	.590	.612	30	111°	.750	.490	MS51990-110P

NOTE: For material, finish and other pertinent data, see sheet 3.

This military standard is approved for use by all Departments and Agencies of the Department of Defense. Selection for all new engineering and design applications and for repetitive use shall be made from this document when applicable.

(C) For changes see sheet 3

P.A. WC	TITLE	MILITARY STANDARD
Other Cust 82 AS	INSERT, SCREW THREAD- LOCKED IN, RING LOCKED, SERRATED	MS51991
PROCUREMENT SPECIFICATION MIL-I-45910	SUPERSEDES:	SHEET 1 OF 3

REVIEWER: MU, IS, AV, MI, EL, AT, NS  
USER: WV, MC, OS, YD, GL, EA, PA

TABLE II (FINE INTERNAL AND COARSE EXTERNAL THREADS)

FED. SUP CLASS  
5340

DASH NO.	A INTERNAL THD UNJF-38		B EXTERNAL THD SEE THREAD NOTE			C	D ±.015	E DIA +.005 -.004	F DIA +.007 -.002	G DIA	H DIA	J	K ° +2° -1°	L ±.015	T ±.015	LOCKRING PART NO. (REF) SEE NOTE 15
	SIZE	MINOR DIA(REF)	SIZE	PITCH DIA.	MINOR DIA.											
-202	.1120-48	.0971 .0917	.1900-24	.1648 .1633	.1407 .1334	.122 .117	.060	.152	.175	.138 .133	.148	14	102°	.250	.150	MS51990-102P
-203	.1380-40	.1202 .1137	.2160-24	.1908 .1893	.1667 .1594	.148 .143	.080	.178	.201	.164 .159	.175	16	90°	.310	.190	MS51990-103P
-204	.1640-36	.1442 .1370	.2500-20	.2198 .2178	.1909 .1824	.175 .170	.080	.203	.230	.187 .182	.197	13	102°	.380	.250	MS51990-104P
-205	.1900-32	.1675 .1596	.3125-18	.2789 .2769	.2468 .2373	.206 .196	.090	.255	.284	.237	.248	17	86°	.440	.290	MS51990-105P
-206	.2500-28	.2229 .2152	.3750-16	.3372 .3347	.3011 .2906	.267 .257	.110	.316	.345	.291	.305	20	102°	.500	.330	MS51990-106P
-207	.3125-24	.2799 .2719	.5000-13	.4531 .4506	.4087 .3963	.336 .321	.120	.380	.407	.396	.370	24	102°	.560	.360	MS51990-107P
-208	.3750-24	.3418 .3344	.5625-12	.5116 .5091	.4635 .4503	.398 .383	.120	.456	.487	.425	.445	26	102°	.620	.420	MS51990-108P
-209	.4375-20	.3970 .3888	.6250-11	.5693 .5668	.5168 .5028	.462 .447	.140	.567	.601	.503	.553	26	111°	.690	.460	MS51990-109P
-210	.5000-20	.4591 .4513	.7500-10	.6885 .6860	.6308 .6156	.525 .510	.160	.687	.721	.590	.612	30	111°	.750	.490	MS51990-110P

TABLE III (FINE INTERNAL AND FINE EXTERNAL THREADS)

DASH NO.	A INTERNAL THD UNJF-38		B EXTERNAL THD SEE THREAD NOTE			C	D ±.015	E DIA +.005 -.004	F DIA +.007 -.002	G DIA	H DIA	J	K ° +2° -1°	L ±.015	T ±.015	LOCKRING PART NO. (REF) SEE NOTE 15
	SIZE	MINOR DIA(REF)	SIZE	PITCH DIA.	MINOR DIA.											
-311	.5625-18	.5166 .5084	.8750-14	.8316 .8291	.7904 .7786	.589 .574	.160	.783	.820	.728	.768	30	111°	.880	.620	MS51990-111P
(a) -312	.6250-18	.5788 .5709	1.0000-14	.9566 .9541	.9154 .9036	.685 .675	.160	.894	.932	.850	.882	38	102°	1.000	.740	MS51990-112P
-312.1	.6250-18	.5788 .5709	1.0000-12	.9491 .9466	.9010 .8878	.685 .675	.160	.894	.932	.850	.882	38	102°	1.000	.740	MS51990-112P
-313	.7500-16	.6977 .6892	1.1250-12	1.0741 1.0716	1.0260 1.0128	.777 .762	.160	1.029	1.074	.950	1.002	36	111°	1.120	.800	MS51990-113P
-314	.8750-14	.8152 .8055	1.2500-12	1.1991 1.1966	1.1510 1.1378	.904 .889	.190	1.169	1.214	1.127	1.127	48	90°	1.250	.900	MS51990-114P
-315	1.0000-12	.9298 .9189	1.3750-12	1.3241 1.3216	1.2760 1.2628	1.029 1.014	.190	1.273	1.318	1.202	1.252	42	111°	1.380	1.020	MS51990-115P

(a) Inactive (not to be used for new design).

TABLE IV  
INTERCHANGEABILITY - SEE NOTE 14

PART NUMBERS					
CANCELLED (CRES 17-10 P)	NEW (CRES A-286)	CANCELLED (CRES 17-10 P)	NEW (CRES A-286)	CANCELLED (CRES 17-10 P)	NEW (CRES A-286)
MS51991	MS51991	MS51991	MS51991	MS51991	MS51991
C102	E102	C202	E202	C311	E311
C103	E103	C203	E203	C312	E312
C104	E104	C204	E204	C312.1	E312.1
C105	E105	C205	E205	C313	E313
C106	E106	C206	E206	C314	E314
C107	E107	C207	E207	C315	E315
C108	E108	C208	E208		
C109	E109	C209	E209		
C110	E110	C210	E210		

P.A. WC Other Cust 82 AS	TITLE <b>INSERT, SCREW THREAD - LOCKED IN, RING LOCKED, SERRATED</b>	<b>MILITARY STANDARD</b> <b>MS51991</b>
PROCUREMENT SPECIFICATION MIL-I-45910	SUPERSEDES:	SHEET 2 OF 3

FED. SUP CLASS  
5340

## NOTES:

1. MATERIAL: (C) Steel, carbon, composition C1117, in accordance with Federal Standard No. 66. Steel, corrosion resistant, A-286 per AMS5731, AMS5734 or AMS5736.
2. PROTECTIVE COATING: Steel, carbon, shall be cadmium plated in accordance with QQ-P-416, Type II, Class 3. Steel, corrosion resistant, shall be passivated in accordance with QQ-P-35. Steel, corrosion resistant, with internal thread lock shall also be solid film lubricant coated per MIL-L-8937.
3. SURFACE ROUGHNESS: Machined surfaces shall be 125 microinches in accordance with ANSI B46.1 except serrated collar.
4. THREADS: The external thread has a special pitch diameter and minor diameter which installs into a national class 3 tapped hole. Threads also shall be in accordance with procurement specification.
5. HEAT TREATMENT: Inserts shall be capable of developing 125,000 PSI tensile strength as specified in the procurement specification.
6. HARDNESS: (C) Steel, carbon, Rockwell B 78 minimum. Steel, corrosion resistant, Rockwell B83.
7. FILLETS: .015 R Max.
8. EDGES: Break sharp edges .003 - .015 unless otherwise specified.
9. DIMENSIONS: Dimensions in inches; to be met after plating.
10. TOLERANCES: Linear dimensions  $\pm .005$ , angular dimensions  $\pm 2^\circ$ .
11. PART NUMBERS: The MS part number consists of the MS number, plus the dash number. Add "E" in lieu of "dash" for corrosion resistant steel. Add "L" as suffix for internal thread lock. Example:  
 MS51991-205      Insert, Carbon Steel, Non-locking  
 MS51991E205      Insert, Cres, Non-locking  
 MS51991-205L      Insert, Carbon Steel, Internal Thread Lock  
 MS51991E205L      Insert, Cres, Internal Thread Lock
12. For design feature purposes, this standard takes precedence over procurement documents referenced herein.
13. Referenced documents shall be of the issue in effect on date of invitations for bid.
14. The dash numbers "C100, C200, and C300" series cres inserts in the original issue of this standard are cancelled/inactivated after the approval date of revision "A" indicated on this document. The cancelled inserts should be used on existing callouts until stock is depleted. Use the new "E100, E200, and E300" series cres inserts for replacement of "C100, C200, and C300" series cres inserts in accordance with Table IV.
15. For applicable locking dash number coding see MS 51990.

REVIEWER: MU, IS, AV, MI, EL, AT, NS  
 USER: WV, MC, OS, YD, GL, EA, PA

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APPROVED 30 JUN 66 (C) For changes see sheet 3

P.A.	WC	TITLE	MILITARY STANDARD
Other Cust	82	INSERT, SCREW THREAD - LOCKED IN, RING LOCKED, SERRATED	MS51991
	AS		
PROCUREMENT SPECIFICATION MIL-I-45910	SUPERSEDES:		SHEET 3 OF 3