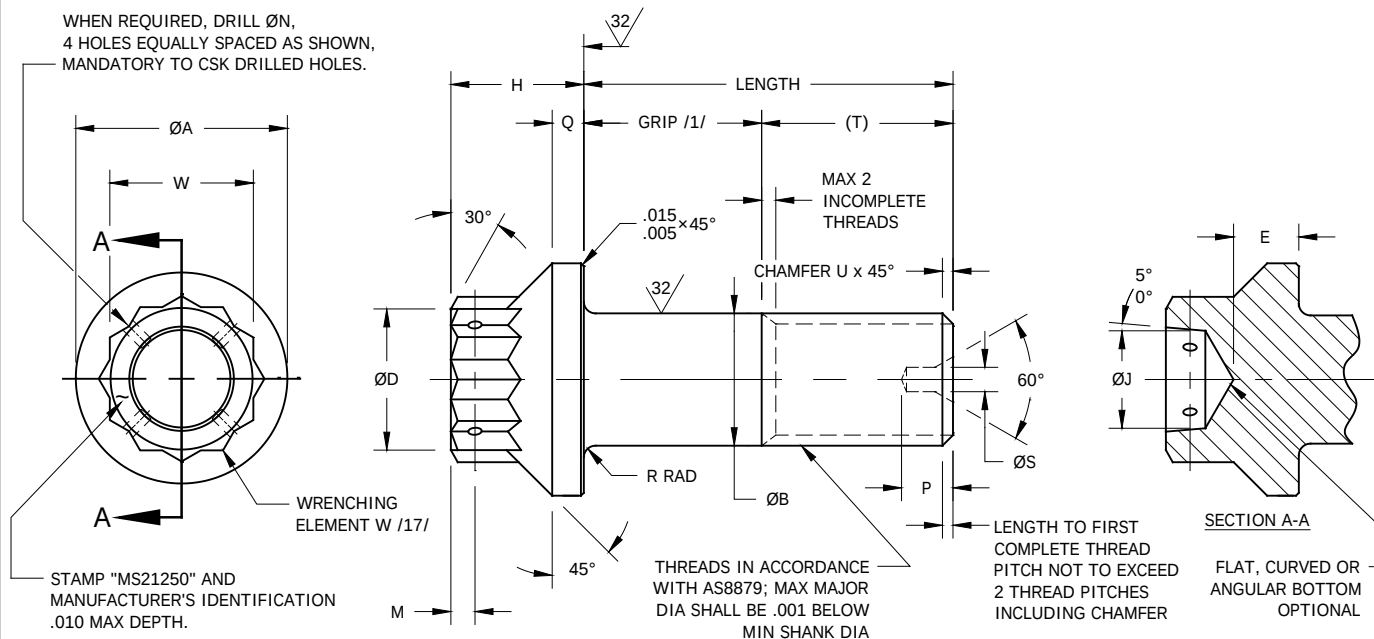


FED. SUPPLY CLASS

5306

WHEN REQUIRED, DRILL ØN,
4 HOLES EQUALLY SPACED AS SHOWN,
MANDATORY TO CSK DRILLED HOLES.



MATERIAL:

ALLOY STEEL - 4140 (UNS G41400) PER MIL-S-5626 AMS6382, E4340 (UNS G43400) PER MIL-S-5000
AMS-S-5000 OR AMS6484, 4340 (UNS G43406) PER AMS6415 OR AMS6484, OR 8740 (UNS G87400) PER MIL-S-
6049 AMS6322 AMS6325 OR AMS6327, OR 6150 (UNS G61500) PER AMS6448.

FINISH:

CADMIUM PLATE IN ACCORDANCE WITH AMS-QQ-P-416, TYPE II, CLASS 2.

HARDNESS:

39-43HRC.

CODE:

ADD LETTER "H" BEFORE DASH NO. TO DESIGNATE DRILLED HEAD.
FIRST TWO DASH NUMBERS DESIGNATE DIAMETER IN SIXTEENTHS.
LAST THREE DASH NUMBERS DESIGNATE GRIP LENGTH IN SIXTEENTHS.
SEE TABLE II FOR PREFERRED GRIP DASH NUMBERS.
UNASSIGNED INTERMEDIATE OR LONGER GRIP LENGTHS NOT INCLUDED IN TABLE II MAY BE SPECIFIED BY
THE USE OF WHOLE DASH NUMBERS ONLY.

② COMPLETELY REVISED

THE INITIAL RELEASE OF THIS DOCUMENT SUPERSEDES MS21250, REVISION L. PART NUMBERS REMAIN MS21250.

THIRD ANGLE PROJECTION	CUSTODIAN NATIONAL AEROSPACE STANDARDS COMMITTEE	REVISION 2
PROCUREMENT SPECIFICATION NASM8831	TITLE BOLT, TENSION, STEEL, EXTERNAL WRENCHING, FLANGED, 12-POINT, 180 KSI Ft_u, 450 °F	CLASSIFICATION PART STANDARD

MS21250

SHEET 1 OF 4

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TABLE I – DIMENSIONS AND STRENGTH VALUES

DIA. DASH NO.	THREAD AS8879	ØA	ØB	NOM SIZE W /17/	ØD	E MIN	H	ØJ +.010 -.030	M	ØN ±.005	P MAX /16/	Q	R RAD	ØS MAX /16/	(T) MIN /15/	U ±.016	DRILL SIZE REF	CONCENTRICITY /12/ /13/ /14/			DOUBLE SHEAR LBF MIN	ULTIMATE TENSILE LBF MIN
																		X	Y	Z		
02	.1640-32 UNJC-3A	.300 .290	.1635 .1625	.2188	.219 .204	.076	.250	.100	.062	.037	—	.050	.041	—	.385	.031	—	.004	.003	.003	4,600	2,950
03	.1900-32 UNJF-3A	.350 .340	.1895 .1885	.2500	.250 .235	.092	.265	.125			—	.055		—	.420		—				6,100	3,910
04	.2500-28 UNJF-3A	.438 .428	.2495 .2485	.3125	.312 .297	.135	.300	.180			—	.069		—	.492		—				10,600	6,980
05	.3125-24 UNJF-3A	.531 .521	.3120 .3110	.3750	.375 .360	.162	.348	.215	.070	.055	—	.082	.057	—	.579	.047	—	.006	.005	.0045	16,600	11,100
06	.3750-24 UNJF-3A	.649 .639	.3745 .3735	.4375	.437 .422	.197	.388	.260			—	.091		—	.625		—				23,900	17,100
07	.4375-20 UNJF-3A	.750 .740	.4370 .4360	.5000	.500 .485	.228	.435	.320			—	.099		—	.721		—	.009	.008	.008	32,500	23,200
08	.5000-20 UNJF-3A	.828 .818	.4995 .4985	.5625	.562 .547	.254	.504	.380	.094	.055	—	.123	.047	—	.768	.062	—				42,400	30,900
09	.5625-18 UNJF-3A	.938 .928	.5615 .5605	.6250	.625 .610	.287	.557	.440			—	.133		—	.852		—	.011	.009	.006	53,700	39,200
10	.6250-18 UNJF-3A	1.050 1.040	.6240 .6230	.6875	.687 .672	.327	.618	.500			—	.150	.073	—	.899	.062	—	.012	.010	.009	66,300	49,000
12	.7500-16 UNJF-3A	1.230 1.220	.7490 .7480	.8125	.812 .797	.380	.711	.570	.125	.055	.200	.178		.187	1.036	.078	2	.015	.012	.009	95,400	71,100
14	.8750-14 UNJF-3A	1.438 1.428	.8740 .8730	.9375	.937 .922	.438	.808	.650			.260	.198	.063	.187	1.244		.020	.016	.014	.009	129,900	97,100
16	1.0000-12 UNJF-3A	1.625 1.615	.9990 .9980	1.0625	1.062 1.047	.493	.923	.740	.188	.055	.222	.258		.250	1.479	.094	3	.022	.019	.012	169,600	126,000
18	1.1250-12 UNJF-3A	1.875 1.865	1.1240 1.1225	1.2500	1.250 1.235	.556	1.051	.840			.269	.269	.320	.250	1.650		.025	.021	.019	.012	214,700	162,000
20	1.2500-12 UNJF-3A	2.125 2.115	1.2490 1.2475	1.3125	1.312 1.297	.636	1.155	.950			.274	.274		.250	1.760		.028	.023	.012	.012	265,100	202,000
22	1.3750-12 UNJF-3A	2.313 2.303	1.3740 1.3725	1.4375	1.437 1.422	.698	1.266	1.070	.188	.055	.335	.335	.089	.312	1.885	.094	.030	.025	.012	.012	320,700	247,000
24	1.5000-12 UNJF-3A	2.500 2.490	1.4990 1.4975	1.6250	1.625 1.610	.750	1.434	1.200			.335	.335		.312	2.010						381,700	296,000

EXAMPLE OF PART NUMBER:

PREFERRED:

MS21250-04008 = BOLT, UNDRILLED HEAD, .2500-28, .500 GRIP LENGTH.

MS21250H04008 = BOLT, DRILLED HEAD, .2500-28, .500 GRIP LENGTH.

UNASSIGNED:

MS21250-04009 = BOLT, UNDRILLED HEAD, .2500-28, .562 GRIP LENGTH.

MS21250H04009 = BOLT, DRILLED HEAD, .2500-28, .562 GRIP LENGTH.

└─ THREADS PER INCH
└─ DIAMETER OF THREAD

NOTES:

- GRIP LENGTH OF BOLT SHALL BE MEASURED FROM UNDERSIDE OF HEAD TO THE END OF FULL CYLINDRICAL PORTION OF THE SHANK.
- DIMENSION IN INCHES AND APPLY AFTER FINISH UNLESS OTHERWISE SPECIFIED.
- TOLERANCES UNLESS OTHERWISE SPECIFIED: DECIMALS ± .010, ANGLES ± 2°.
- TENSILE STRENGTH TO BE 180,000 TO 200,000 PSI.

REVISION

2

ASME B18.2.1

SHEET 2

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② COMPLETELY REVISED

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