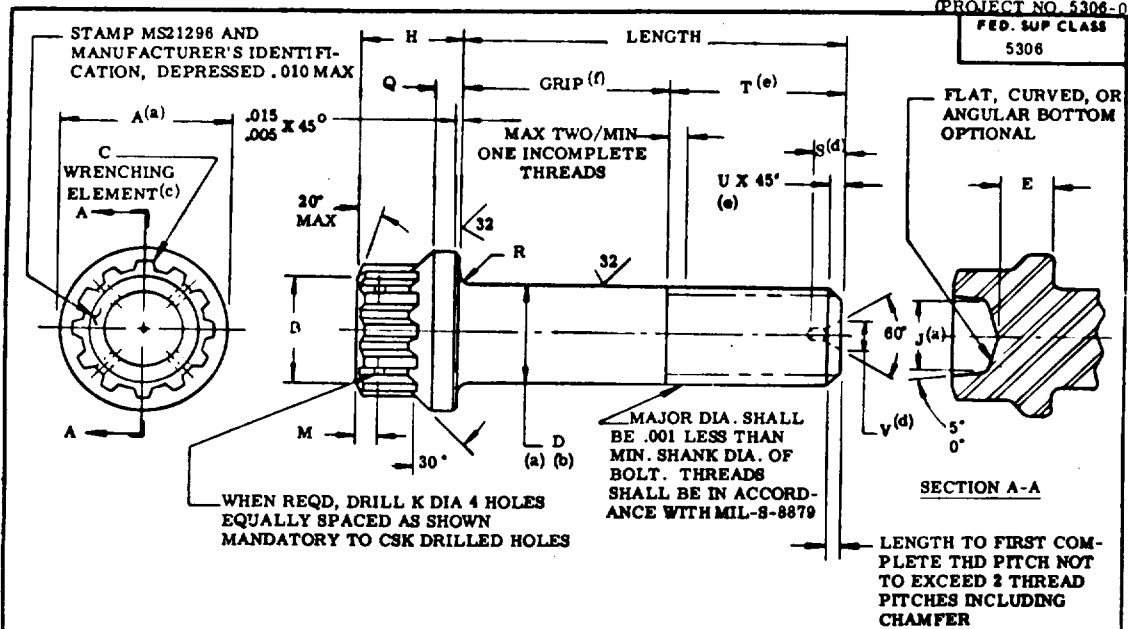


PROJECT NO. 5306-0584

FED. SUP CLASS  
5306USER SYMBOLS:  
ARMY-MIREVIEWER SYMBOLS:  
DSA-15  
ARMY-AT

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



## NOTES:

1. MATERIAL: ALLOY STEEL PER AMS 6487.
2. HARDNESS: ROCKWELL C51-54
3. SURFACE TEXTURE IN ACCORDANCE WITH ANSI (ASA) B46.1-1962.
4. PLATING: CADMIUM COATED (VACUUM DEPOSITED): MIL-C-8837, TYPE II, CLASS 2.
5. DIMENSIONS IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES: DECIMALS  $\pm .010$ , ANGLES  $\pm 2^\circ$ .
6. DIMENSIONS TO BE MET AFTER PLATING.
7. DESIGN AND USAGE INFORMATION: THESE BOLTS ARE DESIGNED TO BE USED WITH MS21085 NUTS AND MS21299 WASHERS.

FOR DESIGN FEATURE PURPOSES, THIS STANDARD TAKES PRECEDENCE OVER PROCUREMENT DOCUMENTS REFERENCED HEREIN.  
REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BID.

REVISOR

P.A. NAVY - AS	TITLE	MILITARY STANDARD
Other Cust USAF-11 ARMY-AV	BOLT, TENSION, STEEL, 260 KSI Ftu, 450°F., EXTERNAL WRENCHING, SPLINE DRIVE, FLANGED HEAD	MS21296
PROCUREMENT SPECIFICATION MIL-B-8907	SUPERSEDES:	SHEET 1 OF 6

DD FORM 672-1 (Coordinated)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

PLATE NO. 15320

APPROVED 28 JAN 1972 REVISED 6 OCT 1975

USER SYMBOLS:  
ARMY-MI

REVIEWER SYMBOLS:  
DSA-IS  
ARMY-AT

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FED. SUP CLASS  
5306

DASH NO.	NOMINAL SIZE	THREAD UNJF-3A	A-DIA (a)		B-DIA		C <sup>(c)</sup> WRENCHING ELEMENT	D-DIA (a) (b)		DASH NO.
			MAX	MIN	MAX	MIN		MAX	MIN	
03	NO. 10	.1900-32	.359	.349	.188	.173	8	.1895	.1885	03
04	1/4	.2500-28	.470	.460	.250	.235	10	.2495	.2485	04
05	5/16	.3125-24	.585	.575	.375	.360	12	.3120	.3110	05
06	3/8	.3750-24	.701	.691	.438	.423	14	.3745	.3735	06
07	7/16	.4375-20	.817	.807	.500	.485	16	.4370	.4360	07
08	1/2	.5000-20	.932	.922	.562	.547	20	.4995	.4985	08
09	9/16	.5625-18	1.047	1.037	.625	.610	22	.5615	.5605	09
10	5/8	.6250-18	1.163	1.153	.688	.673	24	.6240	.6230	10
12	3/4	.7500-16	1.394	1.384	.812	.797	28	.7490	.7480	12
14	7/8	.8750-14	1.625	1.615	.938	.923	32	.8740	.8730	14
16	1	1.0000-12	1.856	1.846	1.062	1.047	36	.9990	.9980	16

DASH NO.	E	H	J (a) +.010 -.030	K +.005	M	Q		R-(RAD)		S MAX (d)	T MIN REF (e)	DASH NO.
	MIN	+.010	-.030	+.005		MAX	MIN	MAX	MIN			
03	.113	.205	.100	.037	.062	.037	.017	.022	.016		.438	03
04	.149	.250	.125			.046	.026	.028	.022		.520	04
05	.187	.312	.215			.055	.035	.035	.029		.634	05
06	.224	.337	.260			.064	.044	.043	.033		.719	06
07	.262	.393	.320	.065	.070	.073	.053	.049	.039		.833	07
08	.299	.450	.380			.082	.062	.055	.045		.913	08
09	.336	.505	.440			.091	.071	.061	.051		1.015	09
10	.374	.562	.500			.100	.080	.068	.058		1.095	10
12	.449	.800	.570		.125	.118	.098	.080	.070	.200	1.293	12
14	.523	.700	.625			.136	.116	.093	.083		1.468	14
16	.599	.800	.740			.154	.134	.105	.095		1.696	16

APPROVED 28 JAN 1972 REVISED 1 FOR CHGS SEE SHT 1

P.A. NAVY - AS Other Cust USAF-11 ARMY-AV	TITLE BOLT, TENSION, STEEL, 260 KSI F <sub>tu</sub> 450° F., EXTERNAL WRENCHING, SPLINE DRIVE, FLANGED HEAD	MILITARY STANDARD MS21296
PROCUREMENT SPECIFICATION MIL-B-8907	SUPERSEDES:	SHEET 2 OF 6

DD FORM 672-1 (Coordinated)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

PLATE NO. 16320

USER SYMBOLS:  
ARMY-MI

REVIEWER SYMBOLS:  
DSA-IS  
ARMY-AT

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5306

DASH NO.	U REF (e)	V MAX (d)	CENTER DRILL SIZE (d)	BEARING AREA MEAN DIA. SQ. IN.	ULTIMATE TENSILE STRENGTH LB MIN	DOUBLE SHEAR STRENGTH LB MIN	CONCENTRICITY		DASH NO.
							X (a)	Z (b)	
03	.039			.0517	5,640	8,840	.004		03
04	.045			.0914	10,100	15,300	.005		04
05	.052			.1442	16,000	23,900	.008		05
06				.2106	24,700	34,400	.008	.0045	06
07	.063			.2896	33,500	46,900	.009		07
08				.3786	44,600	61,200	.010		08
09	.069			.4808	56,600	77,500	.011		09
10				.5945	70,800	95,700	.012	.0060	10
12	.078	.187	2	.7512	103,000	138,000	.015		12
14	.089			1.1673	140,000	188,000	.018	.0090	14
16	.104	.250	3	1.5465	183,000	245,000	.020		16

- (a) DIMENSIONS A, D AND J SHALL BE CONCENTRIC TO EACH OTHER WITHIN VALUES SPECIFIED FOR X T.I.R.  
 (b) DIMENSIONS D AND THREAD PITCH DIAMETER SHALL BE CONCENTRIC TO EACH OTHER WITHIN VALUES SPECIFIED FOR Z T.I.R.  
 (c) WRENCHING ELEMENT PER MS33787, DRIVERS PER MIL-W-8982.  
 (d) ON BOLT SIZES .750 INCH AND LARGER, CENTER DRILLING OF SHANK IS OPTIONAL.  
 (e) REFERENCE DIMENSIONS ARE FOR DESIGN PURPOSES ONLY AND ARE NOT INSPECTION OR MANUFACTURING REQUIREMENTS.  
 (f) GRIP LENGTH OF BOLT SHALL BE MEASURED FROM UNDERSIDE OF HEAD TO THE END OF FULL CYLINDRICAL PORTION OF SHANK.

APPROVED 28 JAN 1972 REVISED A FOR CHGS SEE SHT 1

P.A. NAVY - AS Other Cust USAF-11 ARMY-AV	TITLE BOLT, TENSION, STEEL, 260 KSI Ftu, 450° F., EXTERNAL WRENCHING, SPLINE DRIVE, FLANGED HEAD	MILITARY STANDARD <b>MS21296</b>
PROCUREMENT SPECIFICATION MIL-B-8907	SUPERSEDES.	SHEET 3 OF 6

DD FORM 1 SEP 57 672-1 (Coordinated)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

PLATE NO. 15320

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REVIEWER SYMBOLS:  
DSA-IS  
ARMY-AT

USER SYMBOLS:  
ARMY-MI

P.A. NAVY - AS Other Cust USAF-11 ARMY-AV		TITLE BOLT, TENSION, STEEL, 260 KSI Ftu, 450° F., EXTERNAL WRENCHING, SPLINE DRIVE, FLANGED HEAD		MILITARY STANDARD MS21296	
PROCUREMENT SPECIFICATION MIL-B-8907		SUPERSEDES:		SHEET 4 OF 6	
GRIP DASH NO.	GRIP .010	DIAMETER DASH NUMBERS			
		03	04	05	06
		07	08	09	10
		11	12	13	14
		15	16	17	18
		19	20	21	22
		23	24	25	26
		27	28	29	30
		31	32	33	34
		35	36	37	38
		39	40	41	42
		43	44	45	46
		47	48	49	50
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		59	60	61	62
		63	64	65	66
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		79	80	81	82
		83	84	85	86
		87	88	89	90
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		99	100	101	102
		103	104	105	106
		107	108	109	110
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		891	892	893	894
		895	896	897	898
		899	900	901	902

USER SYMBOLS:  
ARMY-MI

REVIEWER SYMBOLS:  
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FED. SUP CLASS  
5306

DIAMETER DASH NUMBERS															
LENGTH * 0.015															
GRIP DASH NO.	GRIP .010	03	04	05	06	07	08	09	10	12	14	16			
036	2.250	2.703	2.785	2.899	2.984	3.098	3.178	3.280	3.360	3.558	3.753	3.961			
037	2.312	2.766	2.848	2.962	3.046	3.160	3.240	3.342	3.422	3.621	3.816	4.024			
038	2.375	2.828	2.910	3.024	3.109	3.223	3.303	3.405	3.485	3.683	3.878	4.086			
039	2.438	2.890	2.972	3.086	3.172	3.286	3.366	3.468	3.547	3.746	3.941	4.148			
040	2.500	2.953	3.035	3.149	3.234	3.348	3.428	3.530	3.610	3.808	4.003	4.211			
041	2.562	3.016	3.098	3.212	3.296	3.410	3.490	3.592	3.672	3.871	4.066	4.274			
042	2.625	3.078	3.160	3.274	3.359	3.473	3.553	3.655	3.735	3.933	4.128	4.336			
043	2.688	3.140	3.222	3.336	3.422	3.536	3.616	3.718	3.797	3.996	4.191	4.398			
044	2.750	3.203	3.285	3.399	3.484	3.598	3.678	3.780	3.860	4.058	4.253	4.461			
045	2.812	3.266	3.348	3.462	3.546	3.660	3.740	3.842	3.922	4.121	4.316	4.524			
046	2.875	3.328	3.410	3.524	3.609	3.723	3.803	3.905	3.985	4.183	4.378	4.586			
047	2.938	3.390	3.472	3.586	3.672	3.786	3.866	3.968	4.047	4.246	4.441	4.648			
048	3.000	3.453	3.535	3.649	3.734	3.848	3.928	4.030	4.110	4.308	4.503	4.711			
049	3.062	3.516	3.598	3.712	3.796	3.910	3.990	4.092	4.172	4.371	4.566	4.774			
050	3.125	3.578	3.660	3.774	3.859	3.973	4.053	4.155	4.235	4.433	4.628	4.836			
051	3.188	3.640	3.722	3.836	3.922	4.036	4.116	4.218	4.297	4.496	4.691	4.898			
052	3.250	3.703	3.785	3.899	3.984	4.098	4.178	4.280	4.360	4.558	4.753	4.961			
053	3.312	3.766	3.848	3.962	4.046	4.160	4.240	4.342	4.422	4.621	4.816	5.024			
054	3.375	3.828	3.910	4.024	4.109	4.223	4.303	4.405	4.485	4.683	4.878	5.086			
055	3.438	3.890	3.972	4.086	4.172	4.286	4.366	4.468	4.547	4.746	4.941	5.148			
056	3.500	3.953	4.035	4.149	4.234	4.348	4.428	4.530	4.610	4.808	5.003	5.211			
057	3.562	4.016	4.098	4.212	4.296	4.410	4.490	4.592	4.672	4.871	5.066	5.274			
058	3.625	4.078	4.160	4.274	4.359	4.473	4.553	4.655	4.735	4.933	5.128	5.336			
059	3.688	4.140	4.222	4.336	4.422	4.536	4.616	4.718	4.797	4.996	5.191	5.398			
060	3.750	4.203	4.285	4.399	4.484	4.598	4.678	4.780	4.860	5.058	5.253	5.461			
061	3.812	4.266	4.348	4.462	4.546	4.660	4.740	4.842	4.922	5.121	5.316	5.524			
062	3.875	4.328	4.410	4.524	4.609	4.723	4.803	4.905	4.985	5.183	5.378	5.586			
063	3.938	4.390	4.472	4.586	4.672	4.786	4.866	4.968	5.047	5.246	5.441	5.648			
064	4.000	4.453	4.535	4.649	4.734	4.848	4.928	5.030	5.110	5.308	5.503	5.711			
065	4.062	4.515	4.597	4.711	4.796	4.910	4.990	5.092	5.172	5.371	5.566	5.774			
066	4.125	4.578	4.660	4.774	4.859	4.973	5.053	5.155	5.235	5.433	5.628	5.836			
068	4.250	4.703	4.785	4.899	4.984	5.098	5.178	5.280	5.360	5.558	5.753	5.961			
070	4.375	4.765	4.847	4.961	5.046	5.160	5.240	5.342	5.422	5.621	5.816	6.024			
072	4.500	4.891	4.973	5.087	5.172	5.286	5.366	5.468	5.548	5.747	5.942	6.142			

P.A. NAVY - AS  
Other Cust  
USAF-11  
ARMY-AV

TITLE

BOLT, TENSION, STEEL, 280 KSI F<sub>tu</sub>, 450° F.,  
EXTERNAL WRENCHING,  
SPLINE DRIVE, FLANGED HEAD

MILITARY STANDARD

MS21296

PROCUREMENT SPECIFICATION  
MIL-B-8907

SUPERSEDES.

SHEET 5 OF 6

APPROVED 28 JAN 1972 REVISED (A) FOR CRK'S SEE SHT 1

FED. SUP CLASS  
5306

APPROVED 28 JAN 1972 REVISED (A) FOR CR S. SEE SHT 1

DD FORM 672-1 (Coordinated)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

PLATE NO. 15320

BOLT, TENSION, STEEL, 260 KSI F<sub>tu</sub>, 450° F.,  
EXTERNAL WRENCHING,  
SPLINE DRIVE, FLANGED HEAD

MILITARY STANDARD

MS21296

SHEET 5 OF 6

REVIEWER SYMBOLS:  
DSA-IS  
ARMY-AT

USER SYMBOLS:  
ARMY-MI

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be made from this document.

P. A. NAVY - AS		TITLE		MILITARY STANDARD									
Other Cust USAF-11 ARMY-AV		BOLT, TENSION, STEEL, 260 KSI FtL 450° F., EXTERNAL WRENCHING, SPLINE DRIVE, FLANGED HEAD		MS21296									
PROCUREMENT SPECIFICATION MIL-B-8907		SUPERSEDES:		SHEET 6 OF 6									
GRIP DASH NO.	GRIP .010	DIAMETER DASH NUMBERS LENGTH ±.015											
		03	04	05	06	07	08	09	10	12	14	16	
074	4.625		5.160	5.274	5.359	5.473	5.553	5.655	5.735	5.933	6.128	6.336	
076	4.750		5.285	5.399	5.484	5.598	5.678	5.780	5.860	6.058	6.253	6.461	
078	4.875		5.410	5.524	5.609	5.723	5.803	5.905	5.985	6.183	6.378	6.586	
080	5.000		5.535	5.649	5.734	5.848	5.928	6.030	6.110	6.308	6.503	6.711	
082	5.125		5.660	5.774	5.859	5.973	6.053	6.155	6.235	6.433	6.628	6.836	
084	5.250		5.785	5.899	5.984	6.098	6.178	6.280	6.360	6.558	6.753	6.961	
086	5.375		5.910	6.024	6.109	6.223	6.303	6.405	6.485	6.683	6.878	7.086	
088	5.500		6.035	6.149	6.234	6.348	6.428	6.530	6.610	6.808	7.003	7.211	
090	5.625		6.160	6.274	6.359	6.473	6.553	6.655	6.735	6.933	7.128	7.336	
092	5.750		6.285	6.399	6.484	6.598	6.678	6.780	6.860	7.058	7.253	7.461	
094	5.875		6.410	6.524	6.609	6.723	6.803	6.905	6.985	7.183	7.378	7.586	
096	6.000		6.535	6.649	6.734	6.848	6.928	7.030	7.110	7.308	7.503	7.711	
098	6.125							7.155	7.235	7.433	7.628	7.836	
100	6.250							7.280	7.360	7.558	7.753	7.961	
102	6.375							7.405	7.485	7.683	7.878	8.086	
104	6.500							7.530	7.610	7.808	8.003	8.211	
106	6.625							7.655	7.735	7.933	8.128	8.336	
108	6.750							7.780	7.860	8.058	8.253	8.461	
110	6.875							7.905	7.985	8.183	8.378	8.586	
112	7.000							8.030	8.110	8.308	8.503	8.711	

DIAMETER DASH NO. AT TOP OF TABLE, PLUS GRIP DASH NO. FIRST COLUMN ON LEFT OF TABLE CONSTITUTES A COMPLETE DASH NO.  
IDENTIFYING SPECIFIED LENGTHS OF A GIVEN SIZE OF BOLT.  
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.  
UNASSIGNED DASH NOS. SHALL NOT BE USED.  
EXAMPLES OF PART NUMBER: MS21296-04008-1/4-28 BOLT, 1.035 LONG, .500 GRIP, UNDRILLED HEAD.  
MS21296H04008-1/4-28 BOLT, 1.035 LONG, .500 GRIP, DRILLED HEAD.  
MS21296-05012-5/16-24 BOLT, 1.399 LONG, .750 GRIP, UNDRILLED HEAD.  
MS21296H05012-5/16-24 BOLT, 1.399 LONG, .750 GRIP, DRILLED HEAD.

FED. SUP CLASS  
5306

APPROVED 28 JAN 1972 REVISED A FOR CHGS SEE SHT 1