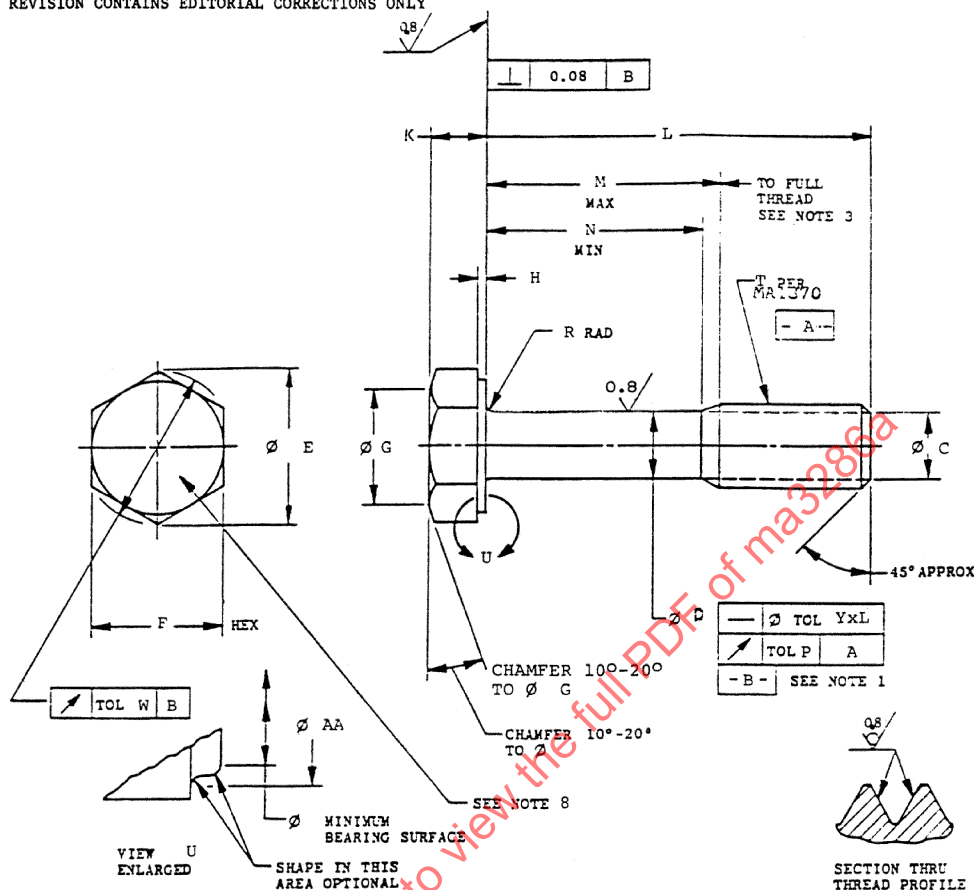


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FEDERAL SUPPLY CLASS
5306

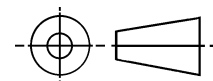
THIS REVISION CONTAINS EDITORIAL CORRECTIONS ONLY



1. FOR PART NUMBERS WHERE DIMENSION N IS EQUAL TO OR LESS THAN ONE TIMES THE NOMINAL DIAMETER OF THE THREAD, THE THREAD PD SHALL REPLACE DATUM B.
2. MATERIAL: HEAT AND CORROSION RESISTANT STEEL AMS 5731. (UNS S66286)
3. PROCUREMENT SPECIFICATION: MA3374
4. HARDNESS: 26-35 HRC OR EQUIVALENT.
5. FLUORESCENT PENETRANT INSPECTION: AMS 2645. ACCEPTANCE CRITERIA PER MA3374
6. SURFACE TEXTURE: SYMBOLS PER ANSI Y14.36-1978; REQUIREMENTS PER ANSI/ASME B46.1-1985 UNLESS OTHERWISE SPECIFIED SURFACES TO BE 3.2 MICROMETRES Ra.
7. PART NUMBER SHALL INCLUDE THE STANDARD NUMBER AND THE DASH NUMBER TO INDICATE DIAMETER AND LENGTH. EXAMPLE OF PART NUMBER:
MA3286-030014 = BOLT, MJ3x0.5 THREAD, 14 LONG
MA3286-080104 = BOLT, MJ8x1 THREAD, 104 LONG
8. MARK PART NUMBER AND MANUFACTURER'S IDENTIFICATION PER AS 478 CLASS A. FOR MJ3 AND MJ4 MARK ONLY MA3286 AND MANUFACTURER'S IDENTIFICATION.
9. BREAK EDGES 0.1-0.4, UNLESS OTHERWISE SPECIFIED.
10. DIMENSIONING AND TOLERANCING: ANSI Y14.5M-1982. TOLERANCE GRADE PER ANSI B4.2-1973.
11. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
12. DO NOT USE UNASSIGNED PART NUMBERS.

AS, MA & AMS ARE SAE PUBLICATIONS.
ANSI IS AMERICAN NATIONAL STANDARDS INSTITUTE PUBLICATION.

THIRD ANGLE PROJECTION



PREPARED BY SAE COMMITTEE E-25, GENERAL STANDARDS FOR AEROSPACE PROPULSION SYSTEMS

SAE The Engineering Society
For Advancing Mobility
Land Sea Air and Space
INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

METRIC AEROSPACE STANDARD

BOLT, MACHINE-HEX HEAD-PD SHANK-MJ
THREAD, AMS 5731, METRIC

MA3286
SHEET 1 OF 7

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MA3286

PART NUMBER SEE NOTE 7	NOM DIA REF	THREAD T	C	K	E MIN	F		G MIN
MA3286-030XXX	3	MJ3x0.5-4h6h	1.8-2.3	3.1-3.4	7.6	6.85-7.00	h12	6.5
MA3286-040XXX	4	MJ4x0.7-4h6h	2.6-3.1	3.6-3.9	8.7	7.85-8.00		7.5
MA3286-050XXX	5	MJ5x0.8-4h6h	3.0-4.0	2.7-3.0	9.8	8.78-9.00		8.4
MA3286-060XXX	6	MJ6x1-4h6h	3.7-4.7	3.2-3.5	12.0	10.73-11.00		10.3
MA3286-070XXX	7	MJ7x1-4h6h	4.7-5.7	3.7-4.0	13.2	11.73-12.00	h13	11.3
MA3286-080XXX	8	MJ8x1-4h6h	5.7-6.7	4.2-4.5	15.5	13.73-14.00		13.3
MA3286-100XXX	10	MJ10x1.25-4h6h	7.4-8.4	4.7-5.0	18.9	16.73-17.00		16.3
MA3286-120XXX	12	MJ12x1.25-4h6h	9.4-10.4	5.7-6.0	21.1	18.67-19.00		18.3
MA3286-140XXX	14	MJ14x1.5-4h6h	11.1-12.1	6.7-7.0	24.5	21.67-22.00		21.3
MA3286-160XXX	16	MJ16x1.5-4h6h	13.1-14.1	7.7-8.0	26.8	23.67-24.00		23.3
MA3286-180XXX	18	MJ18x1.5-4h6h	15.1-16.1	8.7-9.0	30.2	26.67-27.00		26.3
MA3286-200XXX	20	MJ20x1.5-4h6h	17.1-18.1	9.7-10.0	33.6	29.67-30.00		29.3

PART NUMBER SEE NOTE 7	NOM DIA REF	H	J MIN	D	P	R	W	Y	AA MAX
MA3286-030XXX	3	0.2-0.5	6.4	2.55-2.81	0.10	0.2-0.4	0.15	0.0030	7.25
MA3286-040XXX	4	0.2-0.5	7.4	3.42-3.68	0.12	0.2-0.4	0.20	0.0030	8.25
MA3286-050XXX	5	0.2-0.5	8.3	4.35-4.61	0.12	0.3-0.5	0.25	0.0030	9.25
MA3286-060XXX	6	0.2-0.5	10.2	5.22-5.48	0.12	0.5-0.7	0.30	0.0030	11.25
MA3286-070XXX	7	0.2-0.5	11.2	6.22-6.48	0.15	0.5-0.7	0.35	0.0030	12.25
MA3286-080XXX	8	0.3-0.6	13.2	7.22-7.48	0.15	0.5-0.7	0.40	0.0030	14.25
MA3286-100XXX	10	0.3-0.6	16.0	9.06-9.32	0.15	0.6-0.8	0.50	0.0025	17.25
MA3286-120XXX	12	0.3-0.6	18.0	11.06-11.32	0.18	0.6-0.9	0.60	0.0025	19.25
MA3286-140XXX	14	0.3-0.6	21.0	12.90-13.16	0.18	0.8-1.1	0.70	0.0025	22.25
MA3286-160XXX	16	0.3-0.6	23.0	14.90-15.16	0.18	0.8-1.1	0.75	0.0025	24.25
MA3286-180XXX	18	0.3-0.6	26.0	16.90-17.16	0.18	1.0-1.3	0.75	0.0025	27.25
MA3286-200XXX	20	0.3-0.6	29.0	18.90-19.16	0.21	1.0-1.3	0.75	0.0025	30.25

TABLE II

L LENGTH	MJ3x0.5-4h6h				MJ4x0.7-4h6h			
	DASH NO. SEE NOTE	M MAX	N MIN	APPROX MASS kg/100	DASH NO. SEE NOTE	M MAX	N MIN	APPROX MASS kg/100
3.7-4.3	030004	1.4	0.4	0.114				
5.7-6.3	030006	1.4	0.4	0.123	040006	1.8	0.4	0.194
7.7-8.3	030008	1.4	0.4	0.130	040008	1.8	0.4	0.209
9.7-10.3	030010	1.4	0.4	0.139	040010	1.8	0.4	0.224
11.7-12.3	030012	1.4	0.4	0.148	040012	1.8	0.4	0.239
13.7-14.3	030014	2.0	0.4	0.157	040014	1.8	0.4	0.254
15.7-16.3	030016	4.0	1.5	0.166	040016	2.0	0.4	0.269
17.7-18.3	030018	6.0	3.5	0.175	040018	4.0	1.1	0.284
19.7-20.3	030020	8.0	5.5	0.184	040020	6.0	3.1	0.299
21.7-22.3	030022	10.0	7.5	0.193	040022	8.0	5.1	0.314
23.7-24.3	030024	12.0	9.5	0.202	040024	10.0	7.1	0.329
25.7-26.3	030026	14.0	11.5	0.211	040026	12.0	9.1	0.344
27.7-28.3	030028	16.0	13.5	0.220	040028	14.0	11.1	0.359
29.7-30.3	030030	18.0	15.5	0.229	040030	16.0	13.1	0.374
31.7-32.3	030032	20.0	17.5	0.238	040032	18.0	15.1	0.389
33.7-34.3	030034	22.0	29.5	0.247	040034	20.0	17.1	0.404
35.7-36.3	030036	24.0	21.5	0.256	040036	22.0	19.1	0.419
37.7-38.3	030038	26.0	23.5	0.265	040038	24.0	21.1	0.434
39.7-40.3	030040	28.0	25.5	0.274	040040	26.0	23.1	0.449
41.7-42.3	030042	30.0	27.5	0.283	040042	28.0	25.1	0.464
43.7-44.3					040044	30.0	27.1	0.479
45.7-46.3					040046	32.0	29.1	0.494
47.7-48.3					040048	34.0	31.1	0.509
49.7-50.3					040050	36.0	33.1	0.524
51.7-52.3					040052	38.0	35.1	0.539
53.7-54.3					040054	40.0	37.1	0.554
55.7-56.3					040056	42.0	39.1	0.569

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TABLE II (CONTINUED)

L LENGTH	MJ5x0.8-4h6h				MJ6x1-4h6h			
	DASH NO. SEE NOTE	M MAX	N MIN	APPROX MASS kg/100	DASH NO. SEE NOTE	M MAX	N MIN	APPROX MASS kg/100
7.7-8.3	050008	2.1	0.5	0.266				
9.7-10.3	050010	2.1	0.5	0.290	060010	2.7	0.7	0.441
11.7-12.3	050012	2.1	0.5	0.314	060012	2.7	0.7	0.476
13.7-14.3	050014	3.1	0.5	0.338	060014	2.7	0.7	0.511
15.7-16.3	050016	2.1	0.5	0.362	060016	2.7	0.7	0.546
17.7-18.3	050018	2.1	0.5	0.386	060018	2.7	0.7	0.581
19.7-20.3	050020	4.0	0.9	0.410	060020	2.7	0.7	0.616
21.7-22.3	050022	6.0	2.9	0.434	060022	4.0	0.7	0.651
23.7-24.3	050024	8.0	4.9	0.458	060024	6.0	2.5	0.686
25.7-26.3	050026	10.0	6.9	0.482	060026	8.0	4.5	0.721
27.7-28.3	050028	12.0	8.9	0.506	060028	10.0	6.5	0.756
29.7-30.3	050030	14.0	10.9	0.530	060030	12.0	8.5	0.791
31.7-32.3	050032	16.0	12.9	0.554	060032	14.0	10.5	0.826
33.7-34.3	050034	18.0	14.9	0.478	060034	16.0	12.5	0.861
35.7-36.3	050036	20.0	16.9	0.602	060036	18.0	14.5	0.896
37.7-38.3	050038	22.0	18.9	0.626	060038	20.0	16.5	0.931
39.7-40.3	050040	24.0	20.9	0.650	060040	22.0	18.5	0.966
41.7-42.3	050042	26.0	22.9	0.674	060042	24.0	20.5	1.001
43.7-44.3	050044	28.0	24.9	0.698	060044	26.0	22.5	1.036
45.7-46.3	050046	30.0	26.9	0.722	060046	28.0	24.5	1.071
47.7-48.3	050048	32.0	28.9	0.746	060048	30.0	26.5	1.106
49.7-50.3	050050	34.0	30.9	0.770	060050	32.0	28.5	1.141
51.7-52.3	050052	36.0	32.9	0.794	060052	34.0	30.5	1.176
53.7-54.3	050054	38.0	34.9	0.818	060054	36.0	32.5	1.211
55.7-56.3	050056	40.0	36.9	0.842	060056	38.0	34.5	1.246
57.7-58.3	050058	42.0	38.9	0.866	060058	40.0	36.5	1.281
59.7-60.3	050060	44.0	40.9	0.890	060060	42.0	38.5	1.316
63.7-64.3	050064	48.0	44.9	0.938	060064	46.0	42.5	1.386
67.7-68.3	050068	52.0	48.9	0.986	060068	50.0	46.5	1.456
71.7-72.3					060072	54.0	50.5	1.526
75.7-76.3					060076	58.0	54.5	1.596
79.7-80.3					060080	62.0	58.5	1.666
83.7-84.3					060084	66.0	62.5	1.736

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TABLE II (CONTINUED)

L LENGTH	MJ7x1-4h6h				MJ8x1-4h6h			
	DASH NO. SEE NOTE	M MAX	N MIN	APPROX. MASS kg/100	DASH NO. SEE NOTE	M MAX	N MIN	APPROX. MASS kg/100
9.7-10.3	070010	2.7	0.7	0.587	080010	2.7	0.7	0.854
11.7-12.3	070012	2.7	0.7	0.636	080012	2.7	0.7	0.920
13.7-14.3	070014	2.7	0.7	0.685	080014	2.7	0.7	0.986
15.7-16.3	070016	2.7	0.7	0.734	080016	2.7	0.7	1.052
17.7-18.3	070018	2.7	0.7	0.783	080018	2.7	0.7	1.118
19.7-20.3	070020	2.7	0.7	0.832	080020	2.7	0.7	1.184
21.7-22.3	070022	2.7	0.7	0.881	080022	2.7	0.7	1.250
23.7-24.3	070024	4.0	0.7	0.930	080024	2.7	0.7	1.316
25.7-26.3	070026	6.0	2.5	0.979	080026	4.0	0.7	1.382
27.7-28.3	070028	8.0	4.5	1.028	080028	6.0	2.5	1.448
29.7-30.3	070030	10.0	6.5	1.077	080030	8.0	4.5	1.514
31.7-32.3	070032	12.0	8.5	1.26	080032	10.0	6.5	1.580
33.7-34.3	070034	14.0	10.5	1.175	080034	12.0	8.5	1.646
35.7-36.3	070034	16.0	12.5	1.224	080036	14.0	10.5	1.712
37.7-38.3	070038	18.0	14.5	1.273	080038	16.0	12.5	1.718
39.7-40.3	070040	20.0	16.5	1.322	080040	18.0	14.5	1.844
41.7-42.3	070042	22.0	18.5	1.371	080042	20.0	16.5	1.910
43.7-44.3	070044	24.0	20.5	1.420	080044	22.0	18.5	1.976
45.7-46.3	070046	26.0	22.5	1.469	080046	24.0	20.5	2.042
47.7-48.3	070048	28.0	24.5	1.518	080048	26.0	22.5	2.108
49.7-50.3	070050	30.0	26.5	1.567	080050	28.0	24.5	2.174
51.7-52.3	070052	32.0	28.5	1.616	080052	30.0	26.5	2.240
53.7-54.3	070054	34.0	30.5	1.665	080054	32.0	28.5	2.306
55.7-56.3	070056	36.0	32.5	1.714	080056	34.0	30.5	2.372
57.7-58.3	070058	38.0	34.5	1.763	080058	36.0	32.5	2.438
59.7-60.3	070060	40.0	36.5	1.812	080060	38.0	34.5	2.504
63.7-64.3	070064	44.0	40.5	1.910	080064	42.0	38.5	2.636
67.7-68.3	070068	48.0	44.5	2.008	080068	46.0	42.5	2.768
71.7-72.3	070072	52.0	48.5	2.106	080072	50.0	46.5	2.900
75.7-76.3	070076	56.0	52.5	2.204	080076	54.0	50.5	3.032
79.7-80.3	070080	60.0	56.5	2.302	080080	58.0	54.5	3.164
83.7-84.3	070084	64.0	60.5	2.400	080084	62.0	58.5	3.296
87.7-88.3	070088	68.0	64.5	2.498	080088	66.0	62.5	3.428
91.7-92.3	070092	72.0	68.5	2.596	080092	70.0	66.5	3.560
95.7-96.3	070096	76.0	72.5	2.694	080096	74.0	70.5	3.692
99.7-100.3					080100	78.0	74.5	3.824
103.7-104.3					080104	82.0	78.5	3.956
107.7-108.3					080108	86.0	82.5	4.088
111.7-112.3					080112	90.0	86.5	4.220

TABLE II (CONTINUED)

LENGTH	MJ10x1.25-4h6h				MJ12x1.25-4h6h			
	DASH NO. SEE NOTE	M MAX	N MIN	APPROX MASS kg/100	DASH NO. SEE NOTE	M MAX	N MIN	APPROX MASS. kg/100
13.7-14.3	100014	3.3	0.8	1.585				
15.7-16.3	100016	3.3	0.8	1.688	120016	3.4	0.9	2.502
17.7-18.3	100018	3.3	0.8	1.791	120018	3.4	0.9	2.655
19.7-20.3	100020	3.3	0.8	1.894	120020	3.4	0.9	2.808
21.7-22.3	100022	3.3	0.8	1.997	120022	3.4	0.9	2.961
23.7-24.3	100024	3.3	0.8	2.100	120024	3.4	0.9	3.114
25.7-26.3	100026	3.3	0.8	2.203	120026	3.4	0.9	3.267
27.7-28.3	100028	3.3	0.8	2.306	120028	3.4	0.9	3.420
29.7-30.3	100030	4.0	0.8	2.409	120030	3.4	0.9	3.573
31.7-32.3	100032	6.0	2.0	2.512	120032	3.4	0.9	3.726
33.7-34.3	100034	8.0	4.0	2.615	120034	4.0	0.9	3.879
35.7-37.3	100036	10.0	6.0	2.718	120036	6.0	2.0	4.032
37.7-38.3	100038	12.0	8.0	2.821	120038	8.0	4.0	4.185
39.7-40.3	100040	14.0	10.0	2.924	120040	10.0	6.0	4.338
41.7-42.3	100042	16.0	12.0	3.027	120042	12.00	8.0	4.492
43.7-44.3	100044	18.0	14.0	3.130	120044	14.0	10.0	4.645
45.7-46.3	100046	20.0	16.0	3.233	120046	16.0	12.0	4.798
47.7-48.3	100048	22.0	18.0	3.336	120048	18.0	14.0	4.951
49.7-50.3	100050	24.0	20.0	3.439	120050	20.0	16.0	5.104
51.7-52.3	100052	26.0	22.0	3.542	120052	22.0	18.0	5.257
53.7-54.3	100054	28.0	24.0	3.645	120054	24.0	20.0	5.410
55.7-56.3	100056	30.0	26.0	3.748	120056	26.0	22.0	5.563
57.7-58.3	100058	32.0	28.0	3.851	120058	28.0	24.0	5.716
59.7-60.3	100060	34.0	30.0	3.954	120060	30.0	26.0	5.869
63.7-64.3	100064	38.0	34.0	4.160	120064	34.0	30.0	6.175
67.7-68.3	100068	42.0	38.0	4.366	120068	38.0	34.0	6.481
71.7-72.3	100072	46.0	42.0	4.572	120072	42.0	38.0	6.787
75.7-76.3	100076	50.0	46.0	4.778	120076	46.0	42.0	7.093
79.7-80.3	100080	54.0	46.0	4.984	120080	50.0	46.0	7.399
83.7-84.3	100084	58.0	54.0	5.190	120084	54.0	50.0	7.705
87.7-88.3	100088	62.0	58.0	5.396	120088	58.0	54.0	8.011
91.7-92.3	100092	66.0	62.0	5.602	120092	62.0	58.0	8.317
95.7-96.3	100096	70.0	66.0	5.808	120096	66.0	62.0	8.623
99.7-100.3	100100	74.0	70.0	6.014	120100	70.0	66.0	8.929
103.7-104.3	100104	78.0	74.0	6.220	120104	74.0	70.0	9.235
107.7-108.3	100108	82.0	78.0	6.426	120108	78.0	74.0	9.541
111.7-112.3	100112	86.0	82.0	6.632	120112	82.0	78.0	9.847
115.7-116.3	100115	90.0	86.0	6.838	120116	86.0	82.0	10.153
119.7-120.3	100120	94.0	90.0	7.044	120120	90.0	86.0	10.459
123.7-124.3	100124	98.0	94.0	7.250	120124	94.0	90.0	10.765
127.7-128.3	100128	102.0	98.0	7.456	120128	98.0	94.0	11.071
131.7-132.3	100132	106.0	102.0	7.662	120132	102.0	98.0	11.377
135.7-136.3	100136	110.0	106.0	7.868	120136	106.0	102.0	11.683
139.7-140.3	100140	114.0	110.0	8.074	120140	110.0	106.0	11.989
143.7-144.3					120144	114.0	110.0	12.295
147.7-148.3					120148	118.0	114.0	12.601
151.7-152.3					120152	122.0	118.0	12.907
155.7-156.3					120156	126.0	122.0	13.213
159.7-160.3					120160	130.0	126.0	13.519
163.7-164.3					120164	134.0	130.0	13.825
167.7-168.3					120168	138.0	134.0	14.131