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REV. C
MA3289

FEDERAL SUPPLY CLASS
5306

RATIONALE

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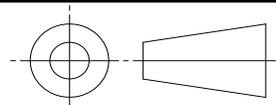
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THIRD ANGLE PROJECTION



ISSUED 1987-12 NONCURRENT 1996-11 REAFFIRMED NONCURRENT 2006-05 REVISED 2009-06 STABILIZED 2014-08

CUSTODIAN: E-25	PROCUREMENT SPECIFICATION: MA3375		
	METRIC AEROSPACE STANDARD BOLT, MACHINE-HEX HEAD-PD SHANK MJ THREAD, AMS6322, CADMIUM PLATE, METRIC	MA3289	REV. C

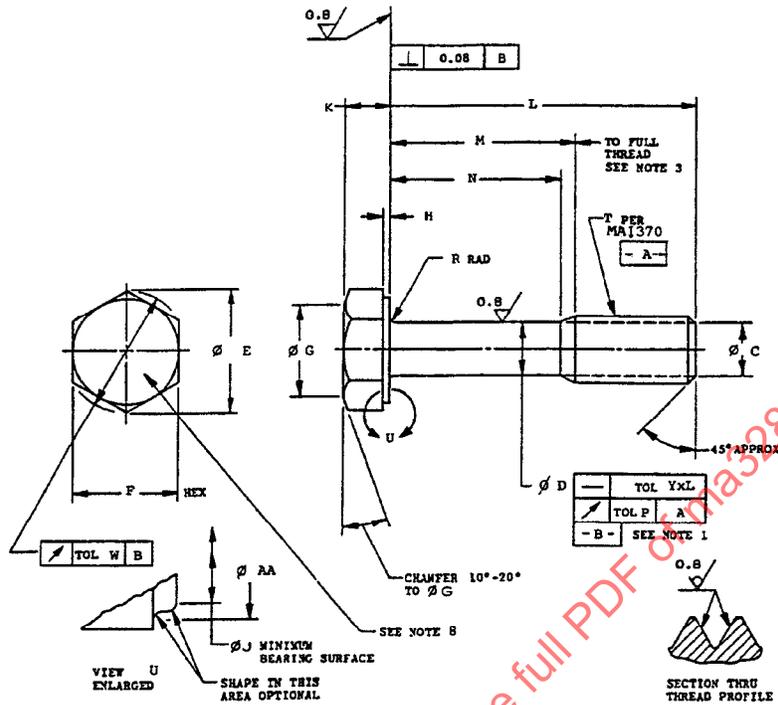


FIGURE 1 - BOLT

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INACTIVE /15/

	METRIC AEROSPACE STANDARD	MA3289 SHEET 1 OF 8	REV. C
	BOLT, MACHINE-HEX HEAD-PD SHANK MJ THREAD, AMS6322, CADMIUM PLATE, METRIC		

TABLE 1 - PART NO AND DIMENSIONS

PART NUMBER SEE NOTE 7	NOM DIA REF	THREAD T	C	K	E MIN	F	G MIN
MA3289-030XXX	3	MJ3x0.5-4h6h	1.8 - 2.3	3.1 - 3.4	7.6	6.85 - 7.00	6.5
MA3289-040XXX	4	MJ4x0.7-4h6h	2.6 - 3.1	3.6 - 3.9	8.7	7.85 - 8.00	7.5
MA3289-050XXX	5	MJ5x0.8-4h6h	3.0 - 4.0	2.7 - 3.0	9.8	8.78 - 9.00	8.4
MA3289-060XXX	6	MJ6x1-4h6h	3.7 - 4.7	3.2 - 3.5	12.0	10.73 - 11.00	10.3
MA3289-070XXX	7	MJ7x1-4h6h	4.7 - 5.7	3.7 - 4.0	13.2	11.73 - 12.00	11.3
MA3289-080XXX	8	MJ8x1-4h6h	5.7 - 6.7	4.2 - 4.5	15.5	13.73 - 14.00	13.3
MA3289-100XXX	10	MJ10x1.25-4h6h	7.4 - 8.4	4.7 - 5.0	18.9	16.73 - 17.00	16.3
MA3289-120XXX	12	MJ12x1.25-4h6h	9.4 - 10.4	5.7 - 6.0	21.1	18.67 - 19.00	18.3
MA3289-140XXX	14	MJ14x1.5-4h6h	11.1 - 12.1	6.7 - 7.0	24.5	21.67 - 22.00	21.3
MA3289-160XXX	16	MJ16x1.5-4h6h	13.1 - 14.1	7.7 - 8.0	26.8	23.67 - 24.00	23.3
MA3289-180XXX	18	MJ18x1.5-4h6h	15.1 - 16.1	8.7 - 9.0	30.2	26.67 - 27.00	26.3
MA3289-200XXX	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
MA3289-030XXX	3	0.2 - 0.5	6.4	2.55 - 2.81	0.10	0.2 - 0.4	0.15	0.0030	7.25
MA3289-040XXX	4	0.2 - 0.5	7.4	3.42 - 3.68	0.12	0.2 - 0.4	0.20	0.0030	8.25
MA3289-050XXX	5	0.2 - 0.5	8.3	4.35 - 4.61	0.12	0.3 - 0.5	0.25	0.0030	9.25
MA3289-060XXX	6	0.2 - 0.5	10.2	5.22 - 5.48	0.12	0.5 - 0.7	0.30	0.0030	11.25
MA3289-070XXX	7	0.2 - 0.5	11.2	6.22 - 6.48	0.15	0.5 - 0.7	0.35	0.0030	12.25
MA3289-080XXX	8	0.3 - 0.6	13.2	7.22 - 7.48	0.15	0.5 - 0.7	0.40	0.0030	14.25
MA3289-100XXX	10	0.3 - 0.6	16.0	9.06 - 9.32	0.15	0.6 - 0.8	0.50	0.0025	17.25
MA3289-120XXX	12	0.3 - 0.6	18.0	11.06 - 11.32	0.18	0.6 - 0.9	0.60	0.0025	19.25
MA3289-140XXX	14	0.3 - 0.6	21.0	12.90 - 13.16	0.18	0.8 - 1.1	0.70	0.0025	22.25
MA3289-160XXX	16	0.3 - 0.6	23.0	14.90 - 15.16	0.18	0.8 - 1.1	0.75	0.0025	24.25
MA3289-180XXX	18	0.3 - 0.6	26.0	16.90 - 17.16	0.18	1.0 - 1.3	0.75	0.0025	27.25
MA3289-200XXX	20	0.3 - 0.6	29.0	18.90 - 19.16	0.21	1.0 - 1.3	0.75	0.0025	30.25

TABLE 2 - DASH NO, DIMENSIONS L, M AND N

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	0.111	-	-	-	-
5.7 - 6.3	030006	1.4	0.4	0.119	040006	1.8	0.4	0.189
7.7 - 8.3	030008	1.4	0.4	0.126	040008	1.8	0.4	0.203
9.7 - 10.3	030010	1.4	0.4	0.135	040010	1.8	0.4	0.218
11.7 - 12.3	030012	1.4	0.4	0.144	040012	1.8	0.4	0.232
13.7 - 14.3	030014	2.0	0.4	0.153	040014	1.8	0.4	0.247
15.7 - 16.3	030016	4.0	1.5	0.161	040016	2.0	0.4	0.261
17.7 - 18.3	030018	6.0	3.5	0.170	040018	4.0	1.1	0.276
19.7 - 20.3	030020	8.0	5.5	0.179	040020	6.0	3.1	0.291
21.7 - 22.3	030022	10.0	7.5	0.188	040022	8.0	5.1	0.305
23.7 - 24.3	030024	12.0	9.5	0.196	040024	10.0	7.1	0.320
25.7 - 26.3	030026	14.0	11.5	0.205	040026	12.0	9.1	0.334
27.7 - 28.3	030028	16.0	13.5	0.214	040028	14.0	11.1	0.349
29.7 - 30.3	030030	18.0	15.5	0.223	040030	16.0	13.1	0.364
31.7 - 32.3	030032	20.0	17.5	0.231	040032	18.0	15.1	0.378
33.7 - 34.3	030034	22.0	19.5	0.240	040034	20.0	17.1	0.393
35.7 - 36.3	030036	24.0	21.5	0.249	040036	22.0	19.1	0.407
37.7 - 38.3	030038	26.0	23.5	0.258	040038	24.0	21.1	0.422
39.7 - 40.3	030040	28.0	25.5	0.266	040040	26.0	23.1	0.436
41.7 - 42.3	030042	30.0	27.5	0.275	040042	28.0	25.1	0.451
43.7 - 44.3	-	-	-	-	040044	30.0	27.1	0.466
45.7 - 46.3	-	-	-	-	040046	32.0	29.1	0.480
47.7 - 48.3	-	-	-	-	040048	34.0	31.1	0.495
49.7 - 50.3	-	-	-	-	040050	36.0	33.1	0.509
51.7 - 52.3	-	-	-	-	040052	38.0	35.1	0.524
53.7 - 54.3	-	-	-	-	040054	40.0	37.1	0.539
55.7 - 56.3	-	-	-	-	040056	42.0	39.1	0.553



METRIC AEROSPACE STANDARD

BOLT, MACHINE-HEX HEAD-PD SHANK MJ THREAD,
AMS6322, CADMIUM PLATE,
METRIC

MA3289
SHEET 2 OF 8

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TABLE 2 – DASH NO, DIMENSIONS L, M AND N (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	0.259	-	-	-	-
9.7 - 10.3	050010	2.1	0.5	0.282	060010	2.7	0.7	0.429
11.7 - 12.3	050012	2.1	0.5	0.305	060012	2.7	0.7	0.463
13.7 - 14.3	050014	3.1	0.5	0.529	060014	2.7	0.7	0.497
15.7 - 16.3	050016	2.1	0.5	0.352	060016	2.7	0.7	0.531
17.7 - 18.3	050018	2.1	0.5	0.375	060018	2.7	0.7	0.565
19.7 - 20.3	050020	4.0	0.9	0.399	060020	2.7	0.7	0.599
21.7 - 22.3	050022	6.0	2.9	0.422	060022	4.0	0.7	0.632
23.7 - 24.3	050024	8.0	4.9	0.445	060024	6.0	2.5	0.667
25.7 - 26.3	050026	10.0	6.9	0.468	060026	8.0	4.5	0.701
27.7 - 28.3	050028	12.0	8.9	0.492	060028	10.0	6.5	0.735
29.7 - 30.3	050030	14.0	10.9	0.515	060030	12.0	8.5	0.769
31.7 - 32.3	050032	16.0	12.9	0.539	060032	14.0	10.5	0.803
33.7 - 34.3	050034	18.0	14.9	0.562	060034	16.0	12.5	0.837
35.7 - 36.3	050036	20.0	16.9	0.585	060036	18.0	14.5	0.871
37.7 - 38.3	050038	22.0	18.9	0.608	060038	20.0	16.5	0.905
39.7 - 40.3	050040	24.0	20.9	0.632	060040	22.0	18.5	0.939
41.7 - 42.3	050042	26.0	22.9	0.655	060042	24.0	20.5	0.973
43.7 - 44.3	050044	28.0	24.9	0.678	060044	26.0	22.5	1.007
45.7 - 46.3	050046	30.0	26.9	0.702	060046	28.0	24.5	1.041
47.7 - 48.3	050048	32.0	28.9	0.725	060048	30.0	26.5	1.075
49.7 - 50.3	050050	34.0	30.9	0.748	060050	32.0	28.5	1.109
51.7 - 52.3	050052	36.0	32.9	0.772	060052	34.0	30.5	1.143
53.7 - 54.3	050054	38.0	34.9	0.795	060054	36.0	32.5	1.177
55.7 - 56.3	050056	40.0	36.9	0.818	060056	38.0	34.5	1.211
57.7 - 58.3	050058	42.0	38.9	0.842	060058	40.0	36.5	1.245
59.7 - 60.3	050060	44.0	40.9	0.865	060060	42.0	38.5	1.279
63.7 - 64.3	050064	48.0	44.9	0.912	060064	46.0	42.5	1.347
67.7 - 68.3	050068	52.0	48.9	0.958	060068	50.0	46.5	1.415
71.7 - 72.3	-	-	-	-	060072	54.0	50.5	1.483
75.7 - 76.3	-	-	-	-	060076	58.0	54.5	1.551
79.7 - 80.3	-	-	-	-	060080	62.0	58.5	1.619
83.7 - 84.3	-	-	-	-	060084	66.0	62.5	1.687

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TABLE 2 – DASH NO, DIMENSIONS L, M AND N (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	0.571	080010	2.7	0.7	0.830
11.7 - 12.3	070012	2.7	0.7	0.642	080012	2.7	0.7	0.894
13.7 - 14.3	070014	2.7	0.7	0.666	080014	2.7	0.7	0.958
15.7 - 16.3	070016	2.7	0.7	0.713	080016	2.7	0.7	1.023
17.7 - 18.3	070018	2.7	0.7	0.761	080018	2.7	0.7	1.087
19.7 - 20.3	070020	2.7	0.7	0.809	080020	2.7	0.7	1.151
21.7 - 22.3	070022	2.7	0.7	0.856	080022	2.7	0.7	1.215
23.7 - 24.3	070024	4.0	0.7	0.904	080024	2.7	0.7	1.279
25.7 - 26.3	070026	6.0	2.5	0.952	080026	4.0	0.7	1.343
27.7 - 28.3	070028	8.0	4.5	0.999	080028	6.0	2.5	1.407
29.7 - 30.3	070030	10.0	6.5	1.047	080030	8.0	4.5	1.472
31.7 - 32.3	070032	12.0	8.5	1.095	080032	10.0	6.5	1.536
33.7 - 34.3	070034	14.0	10.5	1.142	080034	12.0	8.5	1.600
35.7 - 36.3	070034	16.0	12.5	1.190	080036	14.0	10.5	1.664
37.7 - 38.3	070036	18.0	14.5	1.237	080038	16.0	12.5	1.670
39.7 - 40.3	070040	20.0	16.5	1.285	080040	18.0	14.5	1.792
41.7 - 42.3	070042	22.0	18.5	1.333	080042	20.0	16.5	1.857
43.7 - 44.3	070044	24.0	20.5	1.380	080044	22.0	18.5	1.920
45.7 - 46.3	070046	26.0	22.5	1.428	080046	24.0	20.5	1.985
47.7 - 48.3	070048	28.0	24.5	1.476	080048	26.0	22.5	2.049
49.7 - 50.3	070050	30.0	26.5	1.523	080050	28.0	24.5	2.113
51.7 - 52.3	070052	32.0	28.5	1.571	080052	30.0	26.5	2.177
53.7 - 54.3	070054	34.0	30.5	1.618	080054	32.0	28.5	2.241
55.7 - 56.3	070056	36.0	32.5	1.666	080056	34.0	30.5	2.306
57.7 - 58.3	070058	38.0	34.5	1.714	080058	36.0	32.5	2.370
59.7 - 60.3	070060	40.0	36.5	1.761	080060	38.0	34.5	2.434
63.7 - 64.3	070064	44.0	40.5	1.857	080064	42.0	38.5	2.562
67.7 - 68.3	070068	48.0	44.5	1.952	080068	46.0	42.5	2.691
71.7 - 72.3	070072	52.0	48.5	2.047	080072	50.0	46.5	2.819
75.7 - 76.3	070076	56.0	52.5	2.142	080076	54.0	50.5	2.947
79.7 - 80.3	070080	60.0	56.5	2.238	080080	58.0	54.5	3.075
83.7 - 84.3	070084	64.0	60.5	2.333	080084	62.0	58.5	3.204
87.7 - 88.3	070088	68.0	64.5	2.428	080088	66.0	62.5	3.332
91.7 - 92.3	070092	72.0	68.5	2.523	080092	70.0	66.5	3.460
95.7 - 96.3	070096	76.0	72.5	2.619	080096	74.0	70.5	3.589
99.7 - 100.3	-	-	-	-	080100	78.0	74.5	3.717
103.7 - 104.3	-	-	-	-	080104	82.0	78.5	3.845
107.7 - 108.3	-	-	-	-	080108	86.0	82.5	3.974
111.7 - 112.3	-	-	-	-	080112	90.0	86.5	4.102

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TABLE 2 – DASH NO, DIMENSIONS L, M AND N (CONTINUED)

L 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	1.542	-	-	-	-
15.7 - 16.3	100016	3.3	0.8	1.640	120016	3.4	0.9	2.432
17.7 - 18.3	100018	3.3	0.8	1.741	120018	3.4	0.9	2.581
19.7 - 20.3	100020	3.3	0.8	1.841	120020	3.4	0.9	2.729
21.7 - 22.3	100022	3.3	0.8	1.941	120022	3.4	0.9	2.878
23.7 - 24.3	100024	3.3	0.8	2.041	120024	3.4	0.9	3.027
25.7 - 26.3	100026	3.3	0.8	2.141	120026	3.4	0.9	3.176
27.7 - 28.3	100028	3.3	0.8	2.241	120028	3.4	0.9	3.324
29.7 - 30.3	100030	4.0	0.8	2.342	120030	3.4	0.9	3.473
31.7 - 32.3	100032	6.0	2.0	2.442	120032	3.4	0.9	3.622
33.7 - 34.3	100034	8.0	4.0	2.542	120034	4.0	0.9	3.770
35.7 - 37.3	100036	10.0	6.0	2.642	120036	6.0	2.0	3.919
37.7 - 38.3	100038	12.0	8.0	2.742	120038	8.0	4.0	4.068
39.7 - 40.3	100040	14.0	10.0	2.842	120040	10.0	6.0	4.217
41.7 - 42.3	100042	16.0	12.0	2.942	120042	12.0	8.0	4.366
43.7 - 44.3	100044	18.0	14.0	3.143	120044	14.0	10.0	4.515
45.7 - 46.3	100046	20.0	16.0	3.243	120046	16.0	12.0	4.664
47.7 - 48.3	100048	22.0	18.0	3.343	120048	18.0	14.0	4.813
49.7 - 50.3	100050	24.0	20.0	3.443	120050	20.0	16.0	4.961
51.7 - 52.3	100052	26.0	22.0	3.543	120052	22.0	18.0	5.110
53.7 - 54.3	100054	28.0	24.0	3.642	120054	24.0	20.0	5.259
55.7 - 56.3	100056	30.0	26.0	3.743	120056	26.0	22.0	5.407
57.7 - 58.3	100058	32.0	22.0	3.843	120058	28.0	24.0	5.556
59.7 - 60.3	100060	34.0	30.0	4.043	120060	30.0	26.0	5.705
63.7 - 64.3	100064	38.0	34.0	4.244	120064	34.0	30.0	6.002
67.7 - 68.3	100068	42.0	38.0	4.444	120068	38.0	34.0	6.300
71.7 - 72.3	100072	46.0	42.0	4.644	120072	42.0	38.0	6.597
75.7 - 76.3	100076	50.0	46.0	4.845	120076	46.0	42.0	6.895
79.7 - 80.3	100080	54.0	50.0	5.045	120080	50.0	46.0	7.192
83.7 - 84.3	100084	58.0	54.0	5.245	120084	54.0	50.0	7.489
87.7 - 88.3	100088	62.0	58.0	5.445	120088	58.0	54.0	7.787
91.7 - 92.3	100092	66.0	62.0	5.646	120092	62.0	58.0	8.084
95.7 - 96.3	100096	70.0	66.0	5.846	120096	66.0	62.0	8.382
99.7 - 100.3	100100	74.0	70.0	6.046	120100	70.0	66.0	8.679
103.7 - 104.3	100104	78.0	74.0	6.246	120104	74.0	70.0	8.977
107.7 - 108.3	100108	82.0	78.0	6.446	120108	78.0	74.0	9.274
111.7 - 112.3	100112	86.0	82.0	6.647	120112	82.0	78.0	9.572
115.7 - 116.3	100115	90.0	86.0	6.847	120116	86.0	82.0	9.869
119.7 - 120.3	100120	94.0	90.0	7.047	120120	90.0	86.0	10.166
123.7 - 124.3	100124	98.0	94.0	7.247	120124	94.0	90.0	10.464
127.7 - 128.3	100128	102.0	98.0	7.448	120128	98.0	94.0	10.761
131.7 - 132.3	100132	106.0	102.0	7.648	120132	102.0	98.0	11.059
135.7 - 136.3	100136	110.0	106.0	7.848	120136	106.0	102.0	11.356
139.7 - 140.3	100140	114.0	110.0	8.048	120140	110.0	106.0	11.654
143.7 - 144.3	-	-	-	-	120144	114.0	110.0	11.951
147.7 - 148.3	-	-	-	-	120148	118.0	114.0	12.249
151.7 - 152.3	-	-	-	-	120152	122.0	118.0	12.546
155.7 - 156.3	-	-	-	-	120156	126.0	122.0	12.843
159.7 - 160.3	-	-	-	-	120160	130.0	126.0	13.141
163.7 - 164.3	-	-	-	-	120164	134.0	130.0	13.438
167.7 - 168.3	-	-	-	-	120168	138.0	134.0	13.736



METRIC AEROSPACE STANDARD

BOLT, MACHINE-HEX HEAD-PD SHANK MJ THREAD,
AMS6322, CADMIUM PLATE,
METRIC

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SHEET 5 OF 8

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TABLE 2 – DASH NO, DIMENSIONS L, M AND N (CONTINUED)

L LENGTH	MJ14x1.5-4h6h				MJ16x1.5-4h6h			
	DASH NO. SEE NOTE	M MAX	N MIN	APPROX MASS kg/100	DASH NO. SEE NOTE	M MAX	N MIN	APPROX MASS kg/100
19.7 - 20.3	140020	4.1	1.1	3.993	160020	4.1	1.1	5.389
23.7 - 24.3	140024	4.1	1.1	4.396	160024	4.1	1.1	5.925
27.7 - 28.3	140028	4.1	1.1	4.798	160028	4.1	1.1	6.462
31.7 - 32.3	140032	4.1	1.1	5.200	160032	4.1	1.1	6.999
35.7 - 36.3	140036	4.1	1.1	5.603	160036	4.1	1.1	7.535
39.7 - 40.3	140040	6.0	1.5	6.005	160040	4.1	1.1	8.072
43.7 - 44.3	140044	10.0	5.5	6.408	160044	6.0	1.5	8.608
47.7 - 48.3	140048	14.0	9.5	6.810	160048	10.0	5.5	9.145
51.7 - 52.3	140052	18.0	13.5	7.212	160052	14.0	9.5	9.681
55.7 - 56.3	140056	22.0	17.5	7.615	160056	18.0	13.5	10.218
59.7 - 60.3	140060	26.0	21.5	8.017	160060	22.0	17.5	10.755
65.7 - 66.3	140066	32.0	27.5	8.621	160066	28.0	23.5	11.559
71.7 - 72.3	140072	38.0	33.5	9.225	160072	34.0	29.5	12.364
77.7 - 78.3	140078	44.0	39.5	9.828	160078	40.0	35.5	13.169
83.7 - 84.3	140084	50.0	45.5	10.432	160084	46.0	41.5	13.974
89.7 - 90.3	140090	56.0	51.5	11.035	160090	52.0	47.5	14.778
95.7 - 96.3	140096	62.0	57.5	11.639	160096	58.0	53.5	15.584
101.7 - 102.3	140102	68.0	63.5	12.243	160102	64.0	59.5	16.388
107.7 - 108.3	140108	74.0	69.5	12.846	160108	70.0	65.5	17.193
113.7 - 114.3	140114	80.0	75.5	13.450	160114	76.0	71.5	17.998
119.7 - 120.3	140120	86.0	81.5	14.054	160120	82.0	77.5	18.803
125.7 - 126.3	140126	92.0	87.5	14.657	160126	88.0	83.5	19.608
131.7 - 132.3	140132	98.0	93.5	15.260	160132	94.0	89.5	20.413
137.7 - 138.3	140138	104.0	99.5	15.864	160138	100.0	95.5	21.217
143.7 - 144.3	140144	110.0	105.5	16.468	160144	106.0	101.5	22.022
149.7 - 150.3	140150	116.0	111.5	17.071	160150	112.0	107.5	22.827
155.7 - 156.3	140156	122.0	117.5	17.675	160156	118.0	113.5	23.632
161.7 - 162.3	140162	128.0	123.5	18.279	160162	124.0	119.5	24.436
167.7 - 168.3	140168	134.0	129.5	18.883	160168	130.0	125.5	25.242
173.7 - 174.3	140174	140.0	135.5	19.486	160174	136.0	131.5	26.046
179.7 - 180.3	140180	146.0	141.5	20.090	160180	142.0	137.5	26.851
185.7 - 186.3	140186	152.0	147.5	20.694	160186	148.0	143.5	27.656
191.7 - 192.3	140192	158.0	153.5	21.297	160192	154.0	149.5	28.460
197.7 - 198.3	140198	164.0	159.5	21.901	160198	160.0	155.5	29.266
203.7 - 204.3	-	-	-	-	160204	166.0	161.5	30.070
209.7 - 210.3	-	-	-	-	160210	172.0	167.5	30.875
215.7 - 216.3	-	-	-	-	160216	178.0	173.5	31.680
221.7 - 222.3	-	-	-	-	160222	184.0	179.5	32.485

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