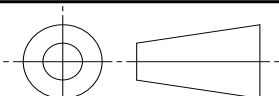


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REV. C	RATIONALE THIS NONCURRENT STANDARD HAS BEEN STABILIZED.		FEDERAL SUPPLY CLASS 5306
MA3289	STABILIZED NOTICE THIS DOCUMENT HAS BEEN DECLARED "STABILIZED" BY THE SAE E-25 GENERAL STANDARDS FOR AEROSPACE AND PROPULSION SYSTEMS COMMITTEE AND WILL NO LONGER BE SUBJECTED TO PERIODIC REVIEWS FOR CURRENCY. USERS ARE RESPONSIBLE FOR VERIFYING REFERENCES AND CONTINUED SUITABILITY OF TECHNICAL REQUIREMENTS. NEWER TECHNOLOGY MAY EXIST.		
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SAE values your input. To provide feedback on this Technical Report, please visit http://www.sae.org/technical/standards/MA3289C		THIRD ANGLE PROJECTION 	
CUSTODIAN: E-25		PROCUREMENT SPECIFICATION: MA3375	
	METRIC AEROSPACE STANDARD BOLT, MACHINE-HEX HEAD-PD SHANK MJ THREAD, AMS6322, CADMIUM PLATE, METRIC		MA3289
			REV. C

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

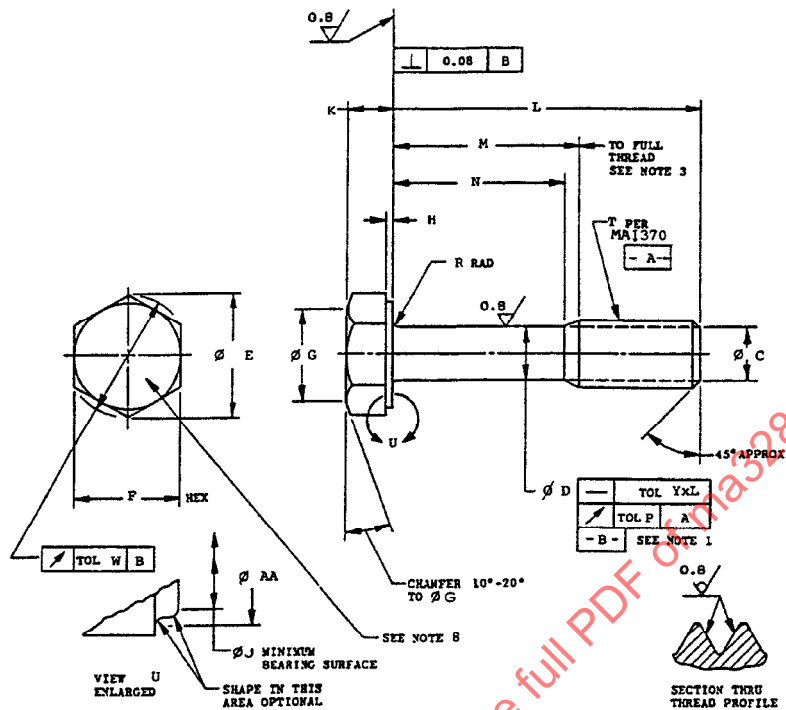


FIGURE 1 - BOLT

INACTIVE /15/

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

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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

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	070036	16.0	12.5	1.190	080036	14.0	10.5	1.664
37.7 - 38.3	070038	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


METRIC AEROSPACE STANDARD

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

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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	8.084	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

MA3289
SHEET 5 OF 8

REV.
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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