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MA4189

FEDERAL SUPPLY CLASS
5306

RATIONALE

MA4189 HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

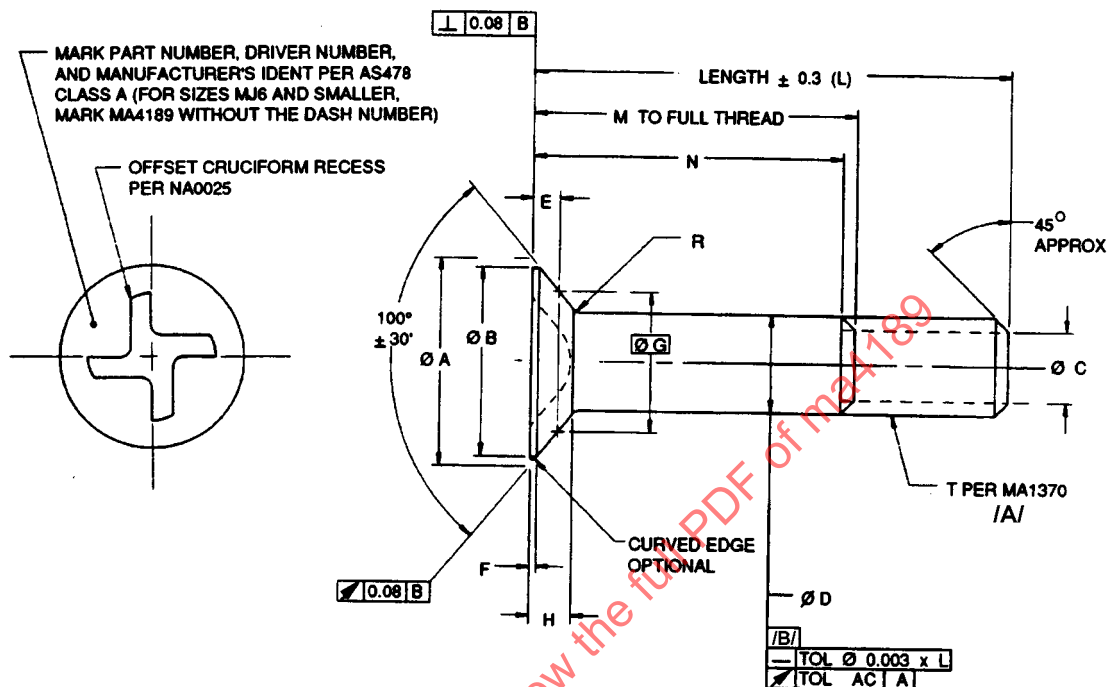
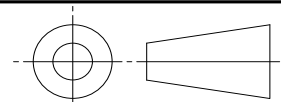


FIGURE 1

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THIRD ANGLE PROJECTION



CUSTODIAN: E-25



METRIC AEROSPACE STANDARD

SCREW, MACHINE, 100° CSK, FLAT HEAD,
OFFSET CRUCIFORM RECESS, FULL SHANK,
UNS S66286, MJ THREAD, METRIC

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I ISSUED 1992-01 REAFFIRMED 2015-05

TABLE 1

PART NUMBER SEE NOTE 9	NOM DIA	THREAD T	ϕC	ϕD h12	H (REF)	E	R RAD	ϕA MAX (REF)	ϕB MIN	ϕG /1/	F MIN
MA4189-030XXX	3	MJ3x0.5 -4h6h	1.8 - 2.3	2.90 - 3.00	1.3	0.55 - 0.63	0.2 - 0.4	6.0	5.4	4.50	0.06
MA4189-040XXX	4	MJ4x0.7 -4h6h	2.6 - 3.1	3.88 - 4.00	1.7	0.93 - 1.01	0.2 - 0.4	8.0	7.2	5.78	0.08
MA4189-050XXX	5	MJ5x0.8 -4h6h	3.0 - 4.0	4.88 - 5.00	2.1	0.96 - 1.04	0.3 - 0.5	10.0	9.0	7.71	0.10
MA4189-060XXX	6	MJ6x1 -4h6h	3.7 - 4.7	5.88 - 6.00	2.5	1.26 - 1.34	0.5 - 0.7	12.0	10.8	9.00	0.10
MA4189-070XXX	7	MJ7x1 -4h6h	4.7 - 5.7	6.85 - 7.00	3.0	1.57 - 1.65	0.5 - 0.7	14.0	12.8	10.28	0.10
MA4189-080XXX	8	MJ8x1 -4h6h	5.7 - 6.7	7.85 - 8.00	3.4	1.60 - 1.68	0.5 - 0.7	16.0	14.8	12.21	0.10
MA4189-100XXX	10	MJ10x1.25-4h6h	7.4 - 8.4	9.85 - 10.00	4.2	1.93 - 2.01	0.6 - 0.8	20.0	18.8	15.43	0.10
MA4189-120XXX	12	MJ12x1.25-4h6h	9.4 - 10.4	11.82 - 12.00	5.0	2.53 - 2.61	0.6 - 0.8	24.0	22.8	18.00	0.10
MA4189-140XXX	14	MJ14x1.5 -4h6h	11.1 - 12.1	13.82 - 14.00	5.9	3.14 - 3.24	0.8 - 1.1	28.0	26.8	20.57	0.10
MA4189-160XXX	16	MJ16x1.5 -4h6h	13.1 - 14.1	15.82 - 16.00	6.7	3.20 - 3.28	0.8 - 1.1	32.0	30.8	24.43	0.10
MA4189-180XXX	18	MJ18x1.5 -4h6h	15.1 - 16.1	17.82 - 18.00	7.6	4.35 - 4.43	1.0 - 1.3	36.0	34.8	25.71	0.10
MA4189-200XXX	20	MJ20x1.5 -4h6h	17.1 - 18.1	19.79 - 20.00	8.4	4.68 - 4.75	1.0 - 1.3	40.0	38.8	28.92	0.10

/1/ PROTRUSION GAGE ID SHALL BE EQUAL TO ϕG - .005

TABLE 2

SIZE	L LENGTH	DASH NO. SEE NOTE 9	M MAX	N MIN	APPROX MASS kg/100
MJ3 x 0.5 - 4h6h	15.7-16.3	030016	4.0	1.5	0.181
	17.7-18.3	030018	6.0	3.5	0.190
	19.7-20.3	030020	8.0	5.5	0.199
	21.7-22.3	030022	10.0	7.5	0.208
	23.7-24.3	030024	12.0	9.5	0.216
	25.7-26.3	030026	14.0	11.5	0.225
	27.7-28.3	030028	16.0	13.5	0.234
	29.7-30.3	030030	18.0	15.5	0.243
	31.7-32.3	030032	20.0	17.5	0.252
	33.7-34.3	030034	22.0	19.5	0.260
	35.7-36.3	030036	24.0	21.5	0.269
	37.7-38.3	030038	26.0	23.5	0.278
	39.7-40.3	030040	28.0	25.5	0.287
	41.7-42.3	030042	30.0	27.5	0.295
	43.7-44.3	--	--	--	--
	45.7-46.3	--	--	--	--
	47.7-48.3	--	--	--	--
	49.7-50.3	--	--	--	--
	51.7-52.3	--	--	--	--
	53.7-54.3	--	--	--	--
	55.7-56.3	--	--	--	--



METRIC AEROSPACE STANDARD

SCREW, MACHINE, 100° CSK, FLAT HEAD,
OFFSET CRUCIFORM RECESS, FULL SHANK,
UNS S66286, MJ THREAD, METRIC

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TABLE 2 (CONTINUED)

SIZE	L LENGTH	DASH NO. SEE NOTE 9	M MAX	N MIN	APPROX MASS kg/100
MJ4 x 0.7 - 4h6h	15.7-16.3	--	--	--	--
	17.7-18.3	--	--	--	--
	19.7-20.3	040020	6.0	3.1	0.322
	21.7-22.3	040022	8.0	5.1	0.338
	23.7-24.3	040024	10.0	7.1	0.353
	25.7-26.3	040026	12.0	9.1	0.369
	27.7-28.3	040028	14.0	11.1	0.384
	29.7-30.3	040030	16.0	13.1	0.400
	31.7-32.3	040032	18.0	15.1	0.415
	33.7-34.3	040034	20.0	17.1	0.431
	35.7-36.3	040036	22.0	19.1	0.446
	37.7-38.3	040038	24.0	21.1	0.462
	39.7-40.3	040040	26.0	23.1	0.477
	41.7-42.3	040042	28.0	25.1	0.493
	43.7-44.3	040044	30.0	27.1	0.508
	45.7-46.3	040046	32.0	29.1	0.523
	47.7-48.3	040048	34.0	31.1	0.539
	49.7-50.3	040050	36.0	33.1	0.554
	51.7-52.3	040052	38.0	35.1	0.570
	53.7-54.3	040054	40.0	37.1	0.585
	55.7-56.3	040056	42.0	39.1	0.601

TABLE 2 (CONTINUED)

SIZE	L LENGTH	DASH NO. SEE NOTE 9	M MAX	N MIN	APPROX MASS kg/100
MJ5 x 0.8 - 4h6h	21.7-22.3	050022	6.0	2.9	0.434
	23.7-24.3	050024	8.0	4.9	0.459
	25.7-26.3	050026	10.0	6.9	0.484
	27.7-28.3	050028	12.0	8.9	0.508
	29.7-30.3	050030	14.0	10.9	0.533
	31.7-32.3	050032	16.0	12.9	0.558
	33.7-34.3	050034	18.0	14.9	0.582
	35.7-36.3	050036	20.0	16.9	0.607
	37.7-38.3	050038	22.0	18.9	0.632
	39.7-40.3	050040	24.0	20.9	0.656
	41.7-42.3	050042	26.0	22.9	0.681
	43.7-44.3	050044	28.0	24.9	0.706
	45.7-46.3	050046	30.0	26.9	0.731
	47.7-48.3	050048	32.0	28.9	0.755
	49.7-50.3	050050	34.0	30.9	0.780
	51.7-52.3	050052	36.0	32.9	0.805
	53.7-54.3	050054	38.0	34.9	0.829
	55.7-56.3	050056	40.0	36.9	0.854
	57.7-58.3	050058	42.0	38.9	0.879
	59.7-60.3	050060	44.0	40.9	0.904
	63.7-64.3	050064	48.0	44.9	0.953
	67.7-68.3	050068	52.0	48.9	1.002
	71.7-72.3	--	--	--	--
	75.7-76.3	--	--	--	--
	79.7-80.3	--	--	--	--
	83.7-84.3	--	--	--	--

TABLE 2 - (CONTINUED)

SIZE	L LENGTH	DASH NO. SEE NOTE 9	M MAX	N MIN	APPROX MASS kg/100
MJ6 x 1 - 4h6h	21.7-22.3	--	--	--	--
	23.7-24.3	060024	6.0	2.5	0.708
	25.7-26.3	060026	8.0	4.5	0.744
	27.7-28.3	060028	10.0	6.5	0.779
	29.7-30.3	060030	12.0	8.5	0.814
	31.7-32.3	060032	14.0	10.5	0.850
	33.7-34.3	060034	16.0	12.5	0.885
	35.7-36.3	060036	18.0	14.5	0.920
	37.7-38.3	060038	20.0	16.5	0.956
	39.7-40.3	060040	22.0	18.5	0.991
	41.7-42.3	060042	24.0	20.5	1.026
	43.7-44.3	060044	26.0	22.5	1.061
	45.7-46.3	060046	28.0	24.5	1.097
	47.7-48.3	060048	30.0	26.5	1.132
	49.7-50.3	060050	32.0	28.5	1.167
	51.7-52.3	060052	34.0	30.5	1.203
	53.7-54.3	060054	36.0	32.5	1.238
	55.7-56.3	060056	38.0	34.5	1.273
	57.7-58.3	060058	40.0	36.5	1.309
	59.7-60.3	060060	42.0	38.5	1.344
	63.7-64.3	060064	46.0	42.5	1.415
	67.7-68.3	060066	50.0	46.5	1.485
	71.7-72.3	060072	54.0	50.5	1.556
	75.7-76.3	060076	58.0	54.5	1.627
	79.7-80.3	060080	62.0	58.5	1.697
	83.7-84.3	060084	66.0	62.5	1.768



METRIC AEROSPACE STANDARD

SCREW, MACHINE, 100° CSK, FLAT HEAD,
OFFSET CRUCIFORM RECESS, FULL SHANK,
UNS S66286, MJ THREAD, METRIC

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TABLE 2 (CONTINUED)

SIZE	L LENGTH	DASH NO. SEE NOTE 9	M MAX	N MIN	APPROX MASS kg/100
MJ7 x 1 - 4h6h	25.7- 26.3	070026	6.0	2.5	1.036
	27.7- 28.3	070028	8.0	4.5	1.086
	29.7- 30.3	070030	10.0	6.5	1.136
	31.7- 32.3	070032	12.0	8.5	1.186
	33.7- 34.3	070034	14.0	10.5	1.236
	35.7- 36.3	070036	16.0	12.5	1.286
	37.7- 38.3	070038	18.0	14.5	1.336
	39.7- 40.3	070040	20.0	16.5	1.385
	41.7- 42.3	070042	22.0	18.5	1.435
	43.7- 44.3	070044	24.0	20.5	1.485
	45.7- 46.3	070046	26.0	22.5	1.535
	47.7- 48.3	070048	28.0	24.5	1.585
	49.7- 50.3	070050	30.0	26.5	1.635
	51.7- 52.3	070052	32.0	28.5	1.684
	53.7- 54.3	070054	34.0	30.5	1.734
	55.7- 56.3	070056	36.0	32.5	1.784
	57.7- 58.3	070058	38.0	34.5	1.834
	59.7- 60.3	070060	40.0	36.5	1.884
	63.7- 64.3	070064	44.0	40.5	1.983
	67.7- 68.3	070068	48.0	44.5	2.083
	71.7- 72.3	070072	52.0	48.5	2.183
	75.7- 76.3	070076	56.0	52.5	2.283
	79.7- 80.3	070080	60.0	56.5	2.382
	83.7- 84.3	070084	64.0	60.5	2.482
	87.7- 88.3	070088	68.0	64.5	2.582
	91.7- 92.3	070092	72.0	68.5	2.681
	95.7- 96.3	070096	76.0	72.5	2.781
	99.7-100.3	--	--	--	--
	103.7-104.3	--	--	--	--
	107.7-108.3	--	--	--	--
	111.7-112.3	--	--	--	--

TABLE 2 (CONTINUED)

SIZE	L LENGTH	DASH NO. SEE NOTE 9	M MAX	N MIN	APPROX MASS kg/100
MJ8 x 1 - 4h6h	25.7- 26.3	--	--	--	--
	27.7- 28.3	--	--	--	--
	29.7- 30.3	080030	8.0	4.5	1.598
	31.7- 32.3	080032	10.0	6.5	1.664
	33.7- 34.3	080034	12.0	8.5	1.731
	35.7- 36.3	080036	14.0	10.5	1.798
	37.7- 38.3	080038	16.0	12.5	1.865
	39.7- 40.3	080040	18.0	14.5	1.932
	41.7- 42.3	080042	20.0	16.5	1.999
	43.7- 44.3	080044	22.0	18.5	2.066
	45.7- 46.3	080046	24.0	20.5	2.132
	47.7- 48.3	080048	26.0	22.5	2.199
	49.7- 50.3	080050	28.0	24.5	2.266
	51.7- 52.3	080052	30.0	26.5	2.333
	53.7- 54.3	080054	32.0	28.5	2.400
	55.7- 56.3	080056	34.0	30.5	2.467
	57.7- 58.3	080058	36.0	32.5	2.534
	59.7- 60.3	080060	38.0	34.5	2.600
	63.7- 64.3	080064	42.0	38.5	2.734
	67.7- 68.3	080068	46.0	42.5	2.868
	71.7- 72.3	080072	50.0	46.5	3.002
	75.7- 76.3	080076	54.0	50.5	3.135
	79.7- 80.3	080080	58.0	54.5	3.269
	83.7- 84.3	080084	62.0	58.5	3.403
	87.7- 88.3	080088	66.0	62.5	3.537
	91.7- 92.3	080092	70.0	66.5	3.670
	95.7- 96.3	080096	74.0	70.5	3.804
	99.7-100.3	080100	78.0	74.5	3.938
	103.7-104.3	080104	82.0	78.5	4.071
	107.7-108.3	080108	86.0	82.5	4.205
	111.7-112.3	080112	90.0	86.5	4.339

TABLE 2 (CONTINUED)

SIZE	L LENGTH	DASH NO. SEE NOTE 9	M MAX	N MIN	APPROX MASS kg/100
MJ10 x 1.25 - 4h6h	33.7- 34.3	100034	8.0	4.5	2.752
	35.7- 37.3	100036	10.0	6.0	2.857
	37.7- 38.3	100038	12.0	8.0	2.961
	39.7- 40.3	100040	14.0	10.0	3.066
	41.7- 42.3	100042	16.0	12.0	3.170
	43.7- 44.3	100044	18.0	14.0	3.275
	45.7- 46.3	100046	20.0	16.0	3.379
	47.7- 48.3	100048	22.0	18.0	3.483
	49.7- 50.3	100050	24.0	20.0	3.588
	51.7- 52.3	100052	26.0	22.0	3.692
	53.7- 54.3	100054	28.0	24.0	3.797
	55.7- 56.3	100056	30.0	26.0	3.901
	57.7- 58.3	100058	32.0	28.0	4.006
	59.7- 60.3	100060	34.0	30.0	4.110
	63.7- 64.3	100064	38.0	34.0	4.319
	67.7- 68.3	100068	42.0	38.0	4.528
	71.7- 72.3	100072	46.0	42.0	4.737
	75.7- 76.3	100076	50.0	46.0	4.946
	79.7- 80.3	100080	54.0	46.0	5.155
	83.7- 84.3	100084	58.0	54.0	5.364
	87.7- 88.3	100088	62.0	58.0	5.573
	91.7- 92.3	100092	66.0	62.0	5.782
	95.7- 96.3	100096	70.0	66.0	5.991
	99.7-100.3	100100	74.0	70.0	6.200
	103.7-104.3	100104	78.0	74.0	6.409
	107.7-108.3	100108	82.0	78.0	6.618
	111.7-112.3	100112	86.0	82.0	6.827
	115.7-116.3	100115	90.0	86.0	7.036
	119.7-120.3	100120	94.0	90.0	7.244
	123.7-124.3	100124	98.0	94.0	7.453
	127.7-128.3	100128	102.0	98.0	7.662
	131.7-132.3	100132	106.0	102.0	7.871
	135.7-136.3	100136	110.0	106.0	8.080
	139.7-140.3	100140	114.0	110.0	8.289
	143.7-144.3	--	--	--	--
	147.7-148.3	--	--	--	--
	151.7-152.3	--	--	--	--
	155.7-156.3	--	--	--	--
	159.7-160.3	--	--	--	--
	163.7-164.3	--	--	--	--
	167.7-168.3	--	--	--	--

TABLE 2 (CONTINUED)

SIZE	L LENGTH	DASH NO. SEE NOTE 9	M MAX	N MIN	APPROX MASS kg/100
MJ12 x 1.25 - 4h6h	33.7- 34.3	--	--	--	--
	35.7- 37.3	--	--	--	--
	37.7- 38.3	--	--	--	--
	39.7- 40.3	120040	10.0	6.0	4.572
	41.7- 42.3	120042	12.0	8.0	4.727
	43.7- 44.3	120044	14.0	10.0	4.882
	45.7- 46.3	120046	16.0	12.0	5.037
	47.7- 48.3	120048	18.0	14.0	5.192
	49.7- 50.3	120050	20.0	16.0	5.347
	51.7- 52.3	120052	22.0	18.0	5.502
	53.7- 54.3	120054	24.0	20.0	5.658
	55.7- 56.3	120056	26.0	22.0	5.813
	57.7- 58.3	120058	28.0	24.0	5.968
	59.7- 60.3	120060	30.0	26.0	6.123
	63.7- 64.3	120064	34.0	30.0	6.433
	67.7- 68.3	120068	38.0	34.0	6.744
	71.7- 72.3	120072	42.0	38.0	7.054
	75.7- 76.3	120076	46.0	42.0	7.364
	79.7- 80.3	120080	50.0	46.0	7.674
	83.7- 84.3	120084	54.0	50.0	7.985
	87.7- 88.3	120088	58.0	54.0	8.295
	91.7- 92.3	120092	62.0	58.0	8.605
	95.7- 96.3	120096	66.0	62.0	8.915
	99.7-100.3	120100	70.0	66.0	9.226
	103.7-104.3	120104	74.0	70.0	9.536
	107.7-108.3	120108	78.0	74.0	9.846
	111.7-112.3	120112	82.0	78.0	10.157
	115.7-116.3	120116	86.0	82.0	10.467
	119.7-120.3	120120	90.0	86.0	10.777
	123.7-124.3	120124	94.0	90.0	11.087
	127.7-128.3	120128	98.0	94.0	11.398
	131.7-132.3	120132	102.0	98.0	11.708
	135.7-136.3	120136	106.0	102.0	12.018
	139.7-140.3	120140	110.0	106.0	12.328
	143.7-144.3	120144	114.0	110.0	12.639
	147.7-148.3	120148	118.0	114.0	12.949
	151.7-152.3	120152	122.0	118.0	13.259
	155.7-156.3	120156	126.0	122.0	13.570
	159.7-160.3	120160	130.0	126.0	13.880
	163.7-164.3	120164	134.0	130.0	14.190
	167.7-168.3	120168	138.0	134.0	14.500

TABLE 2 (CONTINUED)

SIZE	L LENGTH	DASH NO. SEE NOTE 9	M MAX	N MIN	APPROX MASS kg/100
MJ14 x 1.5 - 4h6h	47.7- 48.3	140048	14.0	9.5	7.350
	51.7- 52.3	140052	18.0	13.5	7.771
	55.7- 56.3	140056	22.0	17.5	8.191
	59.7- 60.3	140060	26.0	21.5	8.612
	65.7- 66.3	140066	32.0	27.5	9.242
	71.7- 72.3	140072	38.0	33.5	9.873
	77.7- 78.3	140078	44.0	39.5	10.504
	83.7- 84.3	140084	50.0	45.5	11.134
	89.7- 90.3	140090	56.0	51.5	11.765
	95.7- 96.3	140096	62.0	57.5	12.396
	101.7-102.3	140102	68.0	63.5	13.027
	107.7-108.3	140108	74.0	69.5	13.657
	113.7-114.3	140114	80.0	75.5	14.288
	119.7-120.3	140120	86.0	81.5	14.919
	125.7-126.3	140126	92.0	87.5	15.549
	131.7-132.3	140132	98.0	93.5	16.180
	137.7-138.3	140138	104.0	99.5	16.811
	143.7-144.3	140144	110.0	105.5	17.442
	149.7-150.3	140150	116.0	111.5	18.072
	155.7-156.3	140156	122.0	117.5	18.703
	161.7-162.3	140162	128.0	123.5	19.334
	167.7-168.3	140168	134.0	129.5	19.964
	173.7-174.3	140174	140.0	135.5	20.595
	179.7-180.3	140180	146.0	141.5	21.226
	185.7-186.3	140186	152.0	147.5	21.857
	191.7-192.3	140192	158.0	153.5	22.487
	197.7-198.3	140198	164.0	159.5	23.118
	203.7-204.3	--	--	--	--
	209.7-210.3	--	--	--	--
	215.7-216.3	--	--	--	--
	221.7-222.3	--	--	--	--

TABLE 2 (CONTINUED)

SIZE	L LENGTH	DASH NO. SEE NOTE 9	M MAX	N MIN	APPROX MASS kg/100
MJ16 x 1.5 - 4h6h	47.7- 48.3	--	--	--	--
	51.7- 52.3	160052	14.0	9.5	10.420
	55.7- 56.3	160056	18.0	13.5	10.980
	59.7- 60.3	160060	22.0	17.5	11.541
	65.7- 66.3	160066	28.0	23.5	12.381
	71.7- 72.3	160072	34.0	29.5	13.221
	77.7- 78.3	160078	40.0	35.5	14.061
	83.7- 84.3	160084	46.0	41.5	14.901
	89.7- 90.3	160090	52.0	47.5	15.741
	95.7- 96.3	160096	58.0	53.5	16.581
	101.7-102.3	160102	64.0	59.5	17.421
	107.7-108.3	160108	70.0	65.5	18.261
	113.7-114.3	160114	76.0	71.5	19.101
	119.7-120.3	160120	82.0	77.5	19.941
	125.7-126.3	160126	88.0	83.5	20.781
	131.7-132.3	160132	94.0	89.5	21.621
	137.7-138.3	160138	100.0	95.5	22.461
	143.7-144.3	160144	106.0	101.5	23.301
	149.7-150.3	160150	112.0	107.5	24.141
	155.7-156.3	160156	118.0	113.5	24.981
	161.7-162.3	160162	124.0	119.5	25.822
	167.7-168.3	160168	130.0	125.5	26.662
	173.7-174.3	160174	136.0	131.5	27.502
	179.7-180.3	160180	142.0	137.5	28.342
	185.7-186.3	160186	148.0	143.5	29.182
	191.7-192.3	160192	154.0	149.5	30.022
	197.7-198.3	160198	160.0	155.5	30.862
	203.7-204.3	160204	166.0	161.5	31.702
	209.7-210.3	160210	172.0	167.5	32.542
	215.7-216.3	160216	178.0	173.5	33.382
	221.7-222.3	160222	184.0	179.5	34.222