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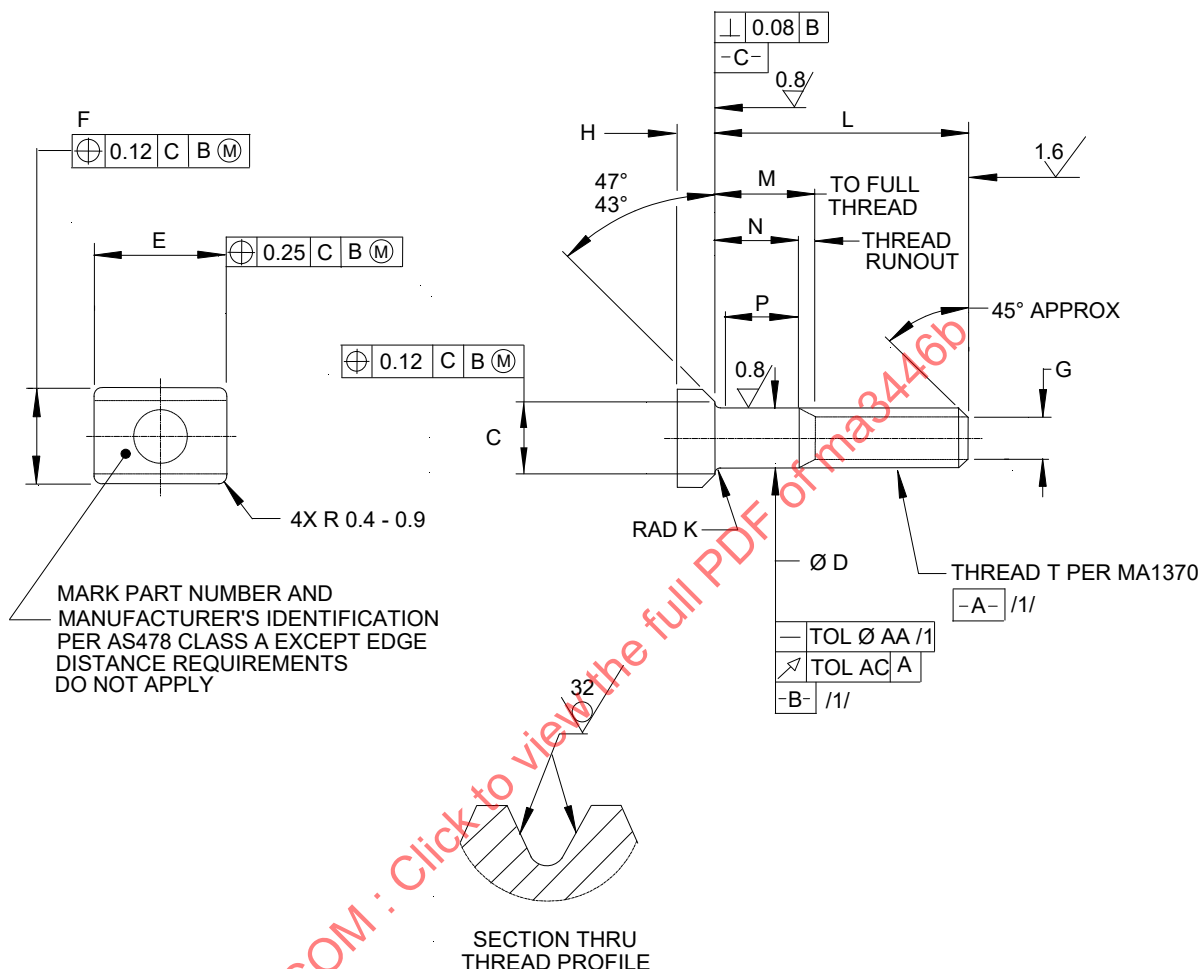
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RATIONALE

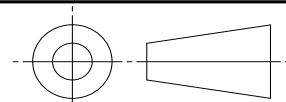
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5306

FIGURE REDRAWN, USAGE NOTE ADDED, SPECS UPDATED.



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THIRD ANGLE PROJECTION



CUSTODIAN: E-25

PROCUREMENT SPECIFICATION: MA3378



METRIC AEROSPACE STANDARD

BOLT, MACHINE - TEE HEAD, CHAMFERED
CLASSIFICATION: 1210 MPA/730 °C
CLOSE TOL SHANK, UNS N07001, METRIC

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ISSUED 1990-02 REAFFIRMED 2015-05 REVISED 2021-11

TABLE 1A - DIMENSIONS D-C

PART NUMBER SEE NOTE 8	NOM DIA REF	THREAD T DESIGNATION	THREAD T MAJOR DIA MOD	D f7 /1/	C
MA3446-050XXX	5	MJ5 x 0.8-4h6h MOD	4.850 - 4.953	4.978 - 4.990	7.0 - 7.2
MA3446-060XXX	6	MJ6 x 1-4h6h MOD	5.820 - 5.953	5.978 - 5.990	8.5 - 8.7
MA3446-070XXX	7	MJ7 x 1-4h6h MOD	6.820 - 6.947	6.972 - 6.987	9.6 - 9.8
MA3446-080XXX	8	MJ8 x 1-4h6h MOD	7.820 - 7.947	7.972 - 7.987	10.8 - 11.0
MA3446-100XXX	10	MJ10 x 1.25-4h6h MOD	9.788 - 9.947	9.972 - 9.987	12.9 - 13.1

TABLE 1B - DIMENSIONS E-AC

NOM DIA REF	E	F	G	H	K	AA	AC
5	11.1 - 11.6	9.0 - 9.3	3.0 - 4.0	2.9 - 3.4	0.3 - 0.5	0.002	0.12
6	12.0 - 12.5	10.5 - 10.8	3.7 - 4.7	3.4 - 3.9	0.5 - 0.7	0.002	0.12
7	13.4 - 13.9	11.6 - 11.9	4.7 - 5.7	4.0 - 4.5	0.5 - 0.7	0.002	0.12
8	14.0 - 14.5	12.8 - 13.1	5.7 - 6.7	4.5 - 5.0	0.5 - 0.7	0.002	0.15
10	16.5 - 17.0	14.9 - 15.2	7.4 - 8.4	5.3 - 5.8	0.6 - 0.8	0.0015	0.15

¹ TOLERANCE GRADE TO ANSI B4.2.



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TABLE 2 - SHANK LENGTH DIMENSIONS

SIZE	DASH NO. SEE NOTE 8	N MIN	M MAX	L LENGTH	APPROX MASS kg/100
MJ5 x 0.8	050003	3	4.85	14.2 - 14.8	0.454
	050004	4	5.85	15.2 - 15.8	0.470
	050005	5	6.85	16.2 - 16.8	0.486
	050006	6	7.85	17.2 - 17.8	0.502
	050007	7	8.85	18.2 - 18.8	0.518
	050008	8	9.85	19.2 - 19.8	0.534
	050009	9	10.85	20.2 - 20.8	0.550
	050010	10	11.85	21.2 - 21.8	0.567
	050011	11	12.85	22.2 - 22.8	0.583
	050012	12	13.85	23.2 - 23.8	0.599
	050013	13	14.85	24.2 - 24.8	0.615
	050014	14	15.85	25.2 - 25.8	0.631
	050015	15	16.85	26.2 - 26.8	0.647
	050016	16	17.85	27.2 - 27.8	0.663
	050017	17	18.85	28.2 - 28.8	0.679
	050018	18	19.85	29.2 - 29.8	0.695
	050019	19	20.85	30.2 - 30.8	0.711
	050020	20	21.85	31.2 - 31.8	0.728
	050021	21	22.85	32.2 - 32.8	0.744
	050022	22	23.85	33.2 - 33.8	0.760
	050023	23	24.85	34.2 - 34.8	0.776
	050024	24	25.85	35.2 - 35.8	0.792
	050025	25	26.85	36.2 - 36.8	0.808
	050026	26	27.85	37.2 - 37.8	0.824
	050027	27	28.85	38.2 - 38.8	0.840
	050028	28	29.85	39.2 - 39.8	0.856
	050029	29	30.85	40.2 - 40.8	0.872
	050030	30	31.85	41.2 - 41.8	0.887
	050032	32	33.85	43.2 - 43.8	0.921
	050034	34	35.85	45.2 - 45.8	0.953
	050036	36	37.85	47.2 - 47.8	0.985
	050038	38	39.85	49.2 - 49.8	1.017
	050040	40	41.85	51.2 - 51.8	1.050
	050042	42	43.85	53.2 - 53.8	1.082
	050044	44	45.85	55.2 - 55.8	1.114
	050046	46	47.85	57.2 - 57.8	1.146
	050048	48	49.85	59.2 - 59.8	1.178
	050050	50	51.85	61.2 - 61.8	1.211



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TABLE 2 - SHANK LENGTH DIMENSIONS (CONTINUED)

SIZE	DASH NO. SEE NOTE 8	N MIN	M MAX	L LENGTH	APPROX MASS kg/100
MJ6 x 1	060003	3	5.25	16.2 - 16.8	0.707
	060004	4	6.25	17.2 - 17.8	0.730
	060005	5	7.25	18.2 - 18.8	0.754
	060006	6	8.25	19.2 - 19.8	0.777
	060007	7	9.25	20.2 - 20.8	0.800
	060008	8	10.25	21.2 - 21.8	0.823
	060009	9	11.25	22.2 - 22.8	0.846
	060010	10	12.25	23.2 - 23.8	0.870
	060011	11	13.25	24.2 - 24.8	0.893
	060012	12	14.25	25.2 - 25.8	0.916
	060013	13	15.25	26.2 - 26.8	0.939
	060014	14	16.25	27.2 - 27.8	0.962
	060015	15	17.25	28.2 - 28.8	0.986
	060016	16	18.25	29.2 - 29.8	1.009
	060017	17	19.25	30.2 - 30.8	1.032
	060018	18	20.25	31.2 - 31.8	1.055
	060019	19	21.25	32.2 - 32.8	1.078
	060020	20	22.25	33.2 - 33.8	1.102
	060021	21	23.25	34.2 - 34.8	1.125
	060022	22	24.25	35.2 - 35.8	1.148
	060023	23	25.25	36.2 - 36.8	1.171
	060024	24	26.25	37.2 - 37.8	1.194
	060025	25	27.25	38.2 - 38.8	1.218
	060026	26	28.25	39.2 - 39.8	1.241
	060027	27	29.25	40.2 - 40.8	1.264
	060028	28	30.25	41.2 - 41.8	1.287
	060029	29	31.25	42.2 - 42.8	1.310
	060030	30	32.25	43.2 - 43.8	1.334
	060032	32	34.25	45.2 - 45.8	1.380
	060034	34	36.25	47.2 - 47.8	1.426
	060036	36	38.25	49.2 - 49.8	1.473
	060038	38	40.25	51.2 - 51.8	1.519
	060040	40	42.25	53.2 - 53.8	1.566
	060042	42	44.25	55.2 - 55.8	1.612
	060044	44	46.25	57.2 - 57.8	1.658
	060046	46	48.25	59.2 - 59.8	1.705
	060048	48	50.25	61.2 - 61.8	1.751
	060050	50	52.25	63.2 - 63.8	1.798
	060052	52	54.25	65.2 - 65.8	1.844
	060054	54	56.25	67.2 - 67.8	1.890
	060056	56	58.25	69.2 - 69.8	1.937
	060058	58	60.25	71.2 - 71.8	1.983
	060060	60	62.25	73.2 - 73.8	2.030



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TABLE 2 - SHANK LENGTH DIMENSIONS (CONTINUED)

SIZE	DASH NO. SEE NOTE 8	N MIN	M MAX	L LENGTH	APPROX MASS kg/100
MJ7 x 1	070004	4	6.25	18.2 - 18.8	1.061
	070005	5	7.25	19.2 - 19.8	1.093
	070006	6	8.25	20.2 - 20.8	1.124
	070007	7	9.25	21.2 - 21.8	1.156
	070008	8	10.25	22.2 - 22.8	1.188
	070009	9	11.25	23.2 - 23.8	1.219
	070010	10	12.25	24.2 - 24.8	1.251
	070011	11	13.25	25.2 - 25.8	1.282
	070012	12	14.25	26.2 - 26.8	1.314
	070013	13	15.25	27.2 - 27.8	1.346
	070014	14	16.25	28.2 - 28.8	1.377
	070015	15	17.25	29.2 - 29.8	1.409
	070016	16	18.25	30.2 - 30.8	1.440
	070017	17	19.25	31.2 - 31.8	1.472
	070018	18	20.25	32.2 - 32.8	1.504
	070019	19	21.25	33.2 - 33.8	1.535
	070020	20	22.25	34.2 - 34.8	1.567
	070021	21	23.25	35.2 - 35.8	1.598
	070022	22	24.25	36.2 - 36.8	1.630
	070023	23	25.25	37.2 - 37.8	1.662
	070024	24	26.25	38.2 - 38.8	1.693
	070025	25	27.25	39.2 - 39.8	1.725
	070026	26	28.25	40.2 - 40.8	1.756
	070027	27	29.25	41.2 - 41.8	1.788
	070028	28	30.25	42.2 - 42.8	1.820
	070029	29	31.25	43.2 - 43.8	1.851
	070030	30	32.25	44.2 - 44.8	1.883
	070032	32	34.25	46.2 - 46.8	1.946
	070034	34	36.25	48.2 - 48.8	2.009
	070036	36	38.25	50.2 - 50.8	2.072
	070038	38	40.25	52.2 - 52.8	2.135
	070040	40	42.25	54.2 - 54.8	2.198
	070042	42	44.25	56.2 - 56.8	2.262
	070044	44	46.25	58.2 - 58.8	2.325
	070046	46	48.25	60.2 - 60.8	2.388
	070048	48	50.25	62.2 - 62.8	2.451
	070050	50	52.25	64.2 - 64.8	2.514
	070052	52	54.25	66.2 - 66.8	2.577
	070054	54	56.25	68.2 - 68.8	2.640
	070056	56	58.25	70.2 - 70.8	2.703
	070058	58	60.25	72.2 - 72.8	2.766
	070060	60	62.25	74.2 - 74.8	2.829
	070062	62	64.25	76.2 - 76.8	2.892
	070064	64	66.25	78.2 - 78.8	2.956
	070066	66	68.25	80.2 - 80.8	3.019
	070068	68	70.25	82.2 - 82.8	3.082
	070070	70	72.25	84.2 - 84.8	3.145



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TABLE 2 - SHANK LENGTH DIMENSIONS (CONTINUED)

SIZE	DASH NO. SEE NOTE 8	N MIN	M MAX	L LENGTH	APPROX MASS kg/100
MJ8 x 1	080004	4	6.25	19.7 - 20.3	1.442
	080005	5	7.25	20.7 - 21.3	1.484
	080006	6	8.25	21.7 - 22.3	1.525
	080007	7	9.25	22.7 - 23.3	1.566
	080008	8	10.25	23.7 - 24.3	1.608
	080009	9	11.25	24.7 - 25.3	1.649
	080010	10	12.25	25.7 - 26.3	1.690
	080011	11	13.25	26.7 - 27.3	1.732
	080012	12	14.25	27.7 - 28.3	1.773
	080013	13	15.25	28.7 - 29.3	1.814
	080014	14	16.25	29.7 - 30.3	1.855
	080015	15	17.25	30.7 - 31.3	1.897
	080016	16	18.25	31.7 - 32.3	1.938
	080017	17	19.25	32.7 - 33.3	1.979
	080018	18	20.25	33.7 - 34.3	2.021
	080019	19	21.25	34.7 - 35.3	2.062
	080020	20	22.25	35.7 - 36.3	2.103
	080021	21	23.25	36.7 - 37.3	2.144
	080022	22	24.25	37.7 - 38.3	2.186
	080023	23	25.25	38.7 - 39.3	2.227
	080024	24	26.25	39.7 - 40.3	2.268
	080025	25	27.25	40.7 - 41.3	2.310
	080026	26	28.25	41.7 - 42.3	2.351
	080027	27	29.25	42.7 - 43.3	2.392
	080028	28	30.25	43.7 - 44.3	2.434
	080029	29	31.25	44.7 - 45.3	2.475
	080030	30	32.25	45.7 - 46.3	2.516
	080032	32	34.25	47.7 - 48.3	2.599
	080034	34	36.25	49.7 - 50.3	2.681
	080036	36	38.25	51.7 - 52.3	2.764
	080038	38	40.25	53.7 - 54.3	2.846
	080040	40	42.25	55.7 - 56.3	2.929
	080042	42	44.25	57.7 - 58.3	3.011
	080044	44	46.25	59.7 - 60.3	3.094
	080046	46	48.25	61.7 - 62.3	3.176
	080048	48	50.25	63.7 - 64.3	3.259
	080050	50	52.25	65.7 - 66.3	3.341
	080052	52	54.25	67.7 - 68.3	3.424
	080054	54	56.25	69.7 - 70.3	3.506
	080056	56	58.25	71.7 - 72.3	3.589
	080058	58	60.25	73.7 - 74.3	3.671
	080060	60	62.25	75.7 - 76.3	3.754
	080062	62	64.25	77.7 - 78.3	3.836
	080064	64	66.25	79.7 - 80.3	3.919
	080066	66	68.25	81.7 - 82.3	4.001
	080068	68	70.25	83.7 - 84.3	4.084
	080070	70	72.25	85.7 - 86.3	4.166
	080072	72	74.25	87.7 - 88.3	4.249
	080074	74	76.25	89.7 - 90.3	4.331
	080076	76	78.25	91.7 - 92.3	4.414
	080078	78	80.25	93.7 - 94.3	4.496
	080080	80	82.25	95.7 - 96.3	4.579



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TABLE 2 - SHANK LENGTH DIMENSIONS (CONTINUED)

SIZE	DASH NO. SEE NOTE 8	N MIN	M MAX	L LENGTH	APPROX MASS kg/100
MJ10 x 1.25	100005	5	7.75	24.2 - 24.8	2.542
	100006	6	8.75	25.2 - 25.8	2.607
	100007	7	9.75	26.2 - 26.8	2.671
	100008	8	10.75	27.2 - 27.8	2.736
	100009	9	11.75	28.2 - 28.8	2.800
	100010	10	12.75	29.2 - 29.8	2.865
	100011	11	13.75	30.2 - 30.8	2.929
	100012	12	14.75	31.2 - 31.8	2.994
	100013	13	15.75	32.2 - 32.8	3.058
	100014	14	16.75	33.2 - 33.8	3.123
	100015	15	17.75	34.2 - 34.8	3.187
	100016	16	18.75	35.2 - 35.8	3.252
	100017	17	19.75	36.2 - 36.8	3.316
	100018	18	20.75	37.2 - 37.8	3.381
	100019	19	21.75	38.2 - 38.8	3.445
	100020	20	22.75	39.2 - 39.8	3.510
	100021	21	23.75	40.2 - 40.8	3.574
	100022	22	24.75	41.2 - 41.8	3.639
	100023	23	25.75	42.2 - 42.8	3.703
	100024	24	26.75	43.2 - 43.8	3.768
	100025	25	27.75	44.2 - 44.8	3.832
	100026	26	28.75	45.2 - 45.8	3.897
	100027	27	29.75	46.2 - 46.8	3.961
	100028	28	30.75	47.2 - 47.8	4.026
	100029	29	31.75	48.2 - 48.8	4.090
	100030	30	32.75	49.2 - 49.8	4.155
	100032	32	34.75	51.2 - 51.8	4.284
	100034	34	36.75	53.2 - 53.8	4.413
	100036	36	38.75	55.2 - 55.8	4.542
	100038	38	40.75	57.2 - 57.8	4.671



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