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REV.
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MA3348™

RATIONALE

FEDERAL SUPPLY CLASS
5306

FIGURE 1 REDRAWN, DELETE INSIDE FILET RADII AT TRANSITION OF WRENCH ELEMENT AND BASE FLANGE, ADD NEW NOTE FOR DISPOSITION OF EXISTING INVENTORY, REVISE FPI REFERENCE, TABLES RETYPED AND REFORMATTED, GENERAL EDITORIAL REVISIONS.

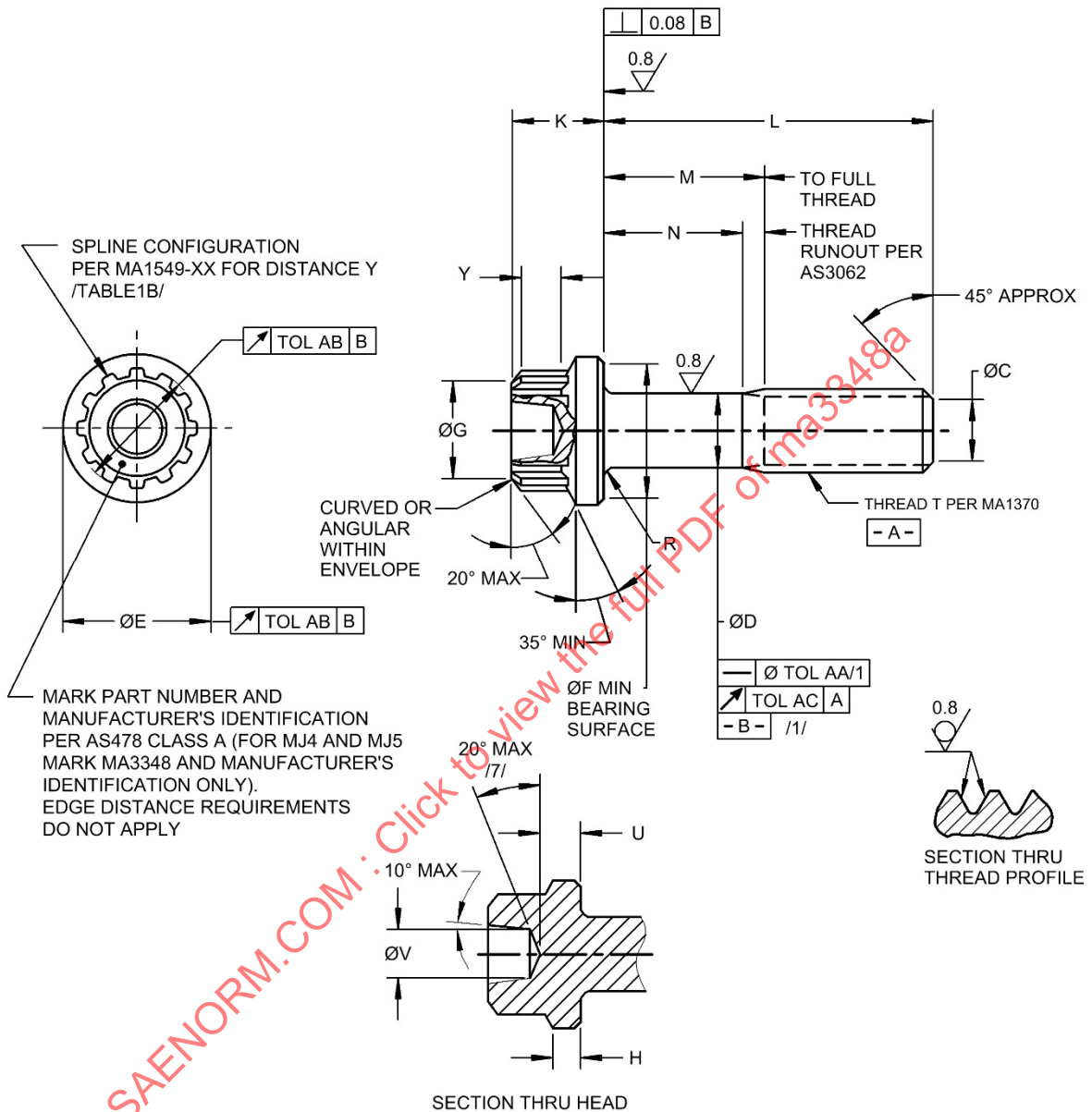
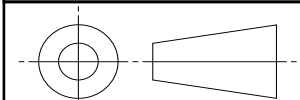


FIGURE 1 - BOLT

For more information on this standard, visit
<https://www.sae.org/standards/content/MA3348A>

THIRD ANGLE PROJECTION



CUSTODIAN: E-25

PROCUREMENT SPECIFICATION: MA3378



METRIC AEROSPACE STANDARD

BOLT, SPLINE DRIVE EXTENDED WASHER HEAD,
PD SHANK, LONG THREAD,
NICKEL ALLOY (UNS N07001), METRIC

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TABLE 1A - PART NUMBERS, NOM DIA, THREAD T, AND DIMENSIONS C, D, E, F, G, H, AND K

PART NUMBER /6/	NOM DIA	THREAD T 4h6h	ØC	ØD	ØE MAX	ØF MIN	ØG MIN	H MIN	K h15
MA3348-040XXX	4	MJ4 X 0.7	2.6- 3.1	3.42- 3.68	8.3	7.5	6	0.8	5.02- 5.50
MA3348-050XXX	5	MJ5 X 0.8	3.0- 4.0	4.35- 4.61	9.1	8.3	7	1.0	5.92- 6.50
MA3348-060XXX	6	MJ6 X 1	3.7- 4.7	5.22- 5.48	10.6	9.8	8	1.2	6.92- 7.50
MA3348-070XXX	7	MJ7 X 1	4.7- 5.7	6.22- 6.48	12.1	11.3	9	1.4	7.62- 8.20
MA3348-080XXX	8	MJ8 X 1	5.7- 6.7	7.22- 7.48	13.6	12.8	10	1.6	8.02- 8.60
MA3348-100XXX	10	MJ10 X 1.25	7.4- 8.4	9.06- 9.32	16.7	15.7	12	2.0	9.40-10.10
MA3348-120XXX	12	MJ12 X 1.25	9.4-10.4	11.06-11.32	19.9	18.8	14	2.4	10.70-11.40

TABLE 1B - PART NUMBERS AND DIMENSIONS R, Y, AB, AC AND WRENCHING DASH NO.

PART NUMBER /6/	R	U	ØV	Y MIN	AA TOL	AB TOL	AC TOL	WRENCHING CONFIGURATION DASH NO.
MA3348-040XXX	0.2-0.4	-----	-----	2.5	0.0030	0.10	0.12	06
MA3348-050XXX	0.3-0.5	2.5-2.9	3.2-3.7	2.8	0.0030	0.13	0.12	07
MA3348-060XXX	0.5-0.7	2.8-3.2	4.1-4.6	3.5	0.0030	0.15	0.12	08
MA3348-070XXX	0.5-0.7	3.3-3.7	4.9-5.4	3.8	0.0030	0.18	0.15	09
MA3348-080XXX	0.5-0.7	3.7-4.1	5.2-5.7	3.9	0.0030	0.20	0.15	10
MA3348-100XXX	0.6-0.8	4.7-5.1	6.7-7.2	4.2	0.0025	0.25	0.15	12
MA3348-120XXX	0.6-0.9	5.6-6.0	8.0-8.5	4.5	0.0025	0.30	0.18	14



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TABLE 2 - DASH NO., DIMENSIONS L, M, N, AND APPROX MASS

SIZE	DASH NO. /6/	L	M MAX	N MIN	APPROX MASS kg/100
MJ4 X 0.7 - 4h6h	040006	5.7- 6.3	1.8	0.4	0.232
	040008	7.7- 8.3	1.8	0.4	0.248
	040010	9.7-10.3	1.8	0.4	0.264
	040012	11.7-12.3	1.8	0.4	0.280
	040014	13.7-14.3	1.8	0.4	0.296
	040016	15.7-16.3	2.0	0.4	0.312
	040018	17.7-18.3	4.0	1.1	0.328
	040020	19.7-20.3	6.0	3.1	0.344
	040022	21.7-22.3	8.0	5.1	0.360
	040024	23.7-24.3	10.0	7.1	0.376
	040026	25.7-26.3	12.0	9.1	0.392
	040028	27.7-28.3	14.0	11.1	0.408
	040030	29.7-30.3	16.0	13.1	0.424
	040032	31.7-32.3	18.0	15.1	0.439
	040034	33.7-34.3	20.0	17.1	0.455
	040036	35.7-36.3	22.0	19.1	0.471
	040038	37.7-38.3	24.0	21.1	0.487
	040040	39.7-40.3	26.0	23.1	0.503
	040042	41.7-42.3	28.0	25.1	0.519
	040044	43.7-44.3	30.0	27.1	0.535
	040046	45.7-46.3	32.0	29.1	0.551
	040048	47.7-48.3	34.0	31.1	0.566
	040050	49.7-50.3	36.0	33.1	0.582
	040052	51.7-52.3	38.0	35.1	0.592
	040054	53.7-54.3	40.0	37.1	0.614
	040056	55.7-56.3	42.0	39.1	0.630



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TABLE 2 - DASH NO., DIMENSIONS L, M, N, AND APPROX MASS (CONTINUED)

SIZE	DASH NO. /6/	L	M MAX	N MIN	APPROX MASS kg/100
MJ5 X 0.8 - 4h6h	050008	7.7- 8.3	2.1	0.5	0.366
	050010	9.7-10.3	2.1	0.5	0.392
	050012	11.7-12.3	2.1	0.5	0.418
	050014	13.7-14.3	2.1	0.5	0.443
	050016	15.7-16.3	2.1	0.5	0.469
	050018	17.7-18.3	2.1	0.5	0.495
	050020	19.7-20.3	4.0	0.9	0.520
	050022	21.7-22.3	6.0	2.9	0.546
	050024	23.7-24.3	8.0	4.9	0.571
	050026	25.7-26.3	10.0	6.9	0.596
	050028	27.7-28.3	12.0	8.9	0.622
	050030	29.7-30.3	14.0	10.9	0.647
	050032	31.7-32.3	16.0	12.9	0.673
	050034	33.7-34.3	18.0	14.9	0.698
	050036	35.7-36.3	20.0	16.9	0.724
	050038	37.7-38.3	22.0	18.9	0.749
	050040	39.7-40.3	24.0	20.9	0.774
	050042	41.7-42.3	26.0	22.9	0.800
	050044	43.7-44.3	28.0	24.9	0.825
	050046	45.7-46.3	30.0	26.9	0.850
	050048	47.7-48.3	32.0	28.9	0.876
	050050	49.7-50.3	34.0	30.9	0.901
	050052	51.7-52.3	36.0	32.9	0.927
	050054	53.7-54.3	38.0	34.9	0.952
	050056	55.7-56.3	40.0	36.9	0.978
	050058	57.7-58.3	42.0	38.9	1.003
	050060	59.7-60.3	44.0	40.9	1.028
	050064	63.7-64.3	48.0	44.9	1.079
	050068	67.7-68.3	52.0	48.9	1.130



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TABLE 2 - DASH NO., DIMENSIONS L, M, N, AND APPROX MASS (CONTINUED)

SIZE	DASH NO. /6/	L	M MAX	N MIN	APPROX MASS kg/100
MJ6 X 1 - 4h6h	060010	9.7-10.3	2.7	0.7	0.570
	060012	11.7-12.3	2.7	0.7	0.606
	060014	13.7-14.3	2.7	0.7	0.643
	060016	15.7-16.3	2.7	0.7	0.679
	060018	17.7-18.3	2.7	0.7	0.716
	060020	19.7-20.3	2.7	0.7	0.753
	060022	21.7-22.3	4.0	0.7	0.789
	060024	23.7-24.3	6.0	2.5	0.826
	060026	25.7-26.3	8.0	4.5	0.862
	060028	27.7-28.3	10.0	6.5	0.898
	060030	29.7-30.3	12.0	8.5	0.935
	060032	31.7-32.3	14.0	10.5	0.971
	060034	33.7-34.3	16.0	12.5	1.007
	060036	35.7-36.3	18.0	14.5	1.044
	060038	37.7-38.3	20.0	16.5	1.080
	060040	39.7-40.3	22.0	18.5	1.116
	060042	41.7-42.3	24.0	20.5	1.152
	060044	43.7-44.3	26.0	22.5	1.189
	060046	45.7-46.3	28.0	24.5	1.225
	060048	47.7-48.3	30.0	26.5	1.261
	060050	49.7-50.3	32.0	28.5	1.298
	060052	51.7-52.3	34.0	30.5	1.334
	060054	53.7-54.3	36.0	32.5	1.379
	060056	55.7-56.3	38.0	34.5	1.406
	060058	57.7-58.3	40.0	36.5	1.443
	060060	59.7-60.3	42.0	38.5	1.479
	060064	63.7-64.3	46.0	42.5	1.552
	060068	67.7-68.3	50.0	46.5	1.624
	060072	71.7-72.3	54.0	50.5	1.697
	060076	75.7-76.3	58.0	54.5	1.770
	060080	79.7-80.3	62.0	58.5	1.842
	060084	83.7-84.3	66.0	62.5	1.915

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TABLE 2 - DASH NO., DIMENSIONS L, M, N, AND APPROX MASS (CONTINUED)

SIZE	DASH NO. /6/	L	M MAX	N MIN	APPROX MASS kg/100
MJ7 X 1 - 4h6h	070010	9.7-10.3	2.7	0.7	0.793
	070012	11.7-12.3	2.7	0.7	0.845
	070014	13.7-14.3	2.7	0.7	0.896
	070016	15.7-16.3	2.7	0.7	0.948
	070018	17.7-18.3	2.7	0.7	1.000
	070020	19.7-20.3	2.7	0.7	1.052
	070022	21.7-22.3	2.7	0.7	1.103
	070024	23.7-24.3	4.0	0.7	1.155
	070026	25.7-26.3	6.0	2.5	1.206
	070028	27.7-28.3	8.0	4.5	1.257
	070030	29.7-30.3	10.0	6.5	1.308
	070032	31.7-32.3	12.0	8.5	1.360
	070034	33.7-34.3	14.0	10.5	1.411
	070036	35.7-36.3	16.0	12.5	1.462
	070038	37.7-38.3	18.0	14.5	1.513
	070040	39.7-40.3	20.0	16.5	1.565
	070042	41.7-42.3	22.0	18.5	1.616
	070044	43.7-44.3	24.0	20.5	1.668
	070046	45.7-46.3	26.0	22.5	1.718
	070048	47.7-48.3	28.0	24.5	1.770
	070050	49.7-50.3	30.0	26.5	1.821
	070052	51.7-52.3	32.0	28.5	1.872
	070054	53.7-54.3	34.0	30.5	1.923
	070056	55.7-56.3	36.0	32.5	1.974
	070058	57.7-58.3	38.0	34.5	2.026
	070060	59.7-60.3	40.0	36.5	2.077
	070064	63.7-64.3	44.0	40.5	2.179
	070068	67.7-68.3	48.0	44.5	2.282
	070072	71.7-72.3	52.0	48.5	2.384
	070076	75.7-76.3	56.0	52.5	2.487
	070080	79.7-80.3	60.0	56.5	2.589
	070084	83.7-84.3	64.0	60.5	2.692
	070088	87.7-88.3	68.0	64.5	2.794
	070092	91.7-92.3	72.0	68.5	2.896
	070096	95.7-96.3	76.0	72.5	2.999



METRIC AEROSPACE STANDARD

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TABLE 2 - DASH NO., DIMENSIONS L, M, N, AND APPROX MASS (CONTINUED)

SIZE	DASH NO. /6/	L	M MAX	N MIN	APPROX MASS kg/100
MJ8 X 1 - 4h6h	080010	9.7- 10.3	2.7	0.7	1.071
	080012	11.7- 12.3	2.7	0.7	1.140
	080014	13.7- 14.3	2.7	0.7	1.210
	080016	15.7- 16.3	2.7	0.7	1.279
	080018	17.7- 18.3	2.7	0.7	1.348
	080020	19.7- 20.3	2.7	0.7	1.417
	080022	21.7- 22.3	2.7	0.7	1.486
	080024	23.7- 24.3	2.7	0.7	1.556
	080026	25.7- 26.3	4.0	0.7	1.625
	080028	27.7- 28.3	6.0	2.5	1.694
	080030	29.7- 30.3	8.0	4.5	1.762
	080032	31.7- 32.3	10.0	6.5	1.831
	080034	33.7- 34.3	12.0	8.5	1.900
	080036	35.7- 36.3	14.0	10.5	1.968
	080038	37.7- 38.3	16.0	12.5	2.037
	080040	39.7- 40.3	18.0	14.5	2.106
	080042	41.7- 42.3	20.0	16.5	2.175
	080044	43.7- 44.3	22.0	18.5	2.243
	080046	45.7- 46.3	24.0	20.5	2.312
	080048	47.7- 48.3	26.0	22.5	2.381
	080050	49.7- 50.3	28.0	24.5	2.450
	080052	51.7- 52.3	30.0	26.5	2.518
	080054	53.7- 54.3	32.0	28.5	2.587
	080056	55.7- 56.3	34.0	30.5	2.656
	080058	57.7- 58.3	36.0	32.5	2.724
	080060	59.7- 60.3	38.0	34.5	2.793
	080064	63.7- 64.3	42.0	38.5	2.931
	080068	67.7- 68.3	46.0	42.5	3.068
	080072	71.7- 72.3	50.0	46.5	3.206
	080076	75.7- 76.3	54.0	50.5	3.343
	080080	79.7- 80.3	58.0	54.5	3.480
	080084	83.7- 84.3	62.0	58.5	3.618
	080088	87.7- 88.3	66.0	62.5	3.755
	080092	91.7- 92.3	70.0	66.5	3.893
	080096	95.7- 96.3	74.0	70.5	4.030
	080100	99.7-100.3	78.0	74.5	4.168
	080104	103.7-104.3	82.0	78.5	4.305
	080108	107.7-108.3	86.0	82.5	4.443
	080112	111.7-112.3	90.0	86.5	4.580



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TABLE 2 - DASH NO., DIMENSIONS L, M, N, AND APPROX MASS (CONTINUED)

SIZE	DASH NO. /6/	L	M MAX	N MIN	APPROX MASS kg/100
MJ10 X 1.25 - 4h6h	100014	13.7- 14.3	3.3	0.8	2.025
	100016	15.7- 16.3	3.3	0.8	2.133
	100018	17.7- 18.3	3.3	0.8	2.241
	100020	19.7- 20.3	3.3	0.8	2.350
	100022	21.7- 22.3	3.3	0.8	2.458
	100024	23.7- 24.3	3.3	0.8	2.566
	100026	25.7- 26.3	3.3	0.8	2.674
	100028	27.7- 28.3	3.3	0.8	2.783
	100030	29.7- 30.3	4.0	0.8	2.891
	100032	31.7- 32.3	6.0	2.0	2.999
	100034	33.7- 34.3	8.0	4.0	3.106
	100036	35.7- 36.3	10.0	6.0	3.213
	100038	37.7- 38.3	12.0	8.0	3.321
	100040	39.7- 40.3	14.0	10.0	3.428
	100042	41.7- 42.3	16.0	12.0	3.536
	100044	43.7- 44.3	18.0	14.0	3.643
	100046	45.7- 46.3	20.0	16.0	3.750
	100048	47.7- 48.3	22.0	18.0	3.858
	100050	49.7- 50.3	24.0	20.0	3.965
	100052	51.7- 52.3	26.0	22.0	4.072
	100054	53.7- 54.3	28.0	24.0	4.178
	100056	55.7- 56.3	30.0	26.0	4.287
	100058	57.7- 58.3	32.0	28.0	4.394
	100060	59.7- 60.3	34.0	30.0	4.502
	100064	63.7- 64.3	38.0	34.0	4.717
	100068	67.7- 68.3	42.0	38.0	4.931
	100072	71.7- 72.3	46.0	42.0	5.146
	100076	75.7- 76.3	50.0	46.0	5.361
	100080	79.7- 80.3	54.0	50.0	5.576
	100084	83.7- 84.3	58.0	54.0	5.790
	100088	87.7- 88.3	62.0	58.0	6.005
	100092	91.7- 92.3	66.0	62.0	6.220
	100096	95.7- 96.3	70.0	66.0	6.435
	100100	99.7-100.3	74.0	70.0	6.650
	100104	103.7-104.3	78.0	74.0	6.864
	100108	107.7-108.3	82.0	78.0	7.079
	100112	111.7-112.3	86.0	82.0	7.294
	100116	115.7-116.3	90.0	86.0	7.508
	100120	119.7-120.3	94.0	90.0	7.723
	100124	123.7-124.3	98.0	94.0	7.938
	100128	127.7-128.3	102.0	98.0	8.153
	100132	131.7-132.3	106.0	102.0	8.368
	100136	135.7-136.3	110.0	106.0	8.582
	100140	139.7-140.3	114.0	110.0	8.798



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