

TABLE I. Dash numbers and dimensions.

ØD NOMINAL BALL DIAMETER	BASIC DIAMETER ^{1/}	GRADE						
		3	5	10	16	48	100	200
		DASH NUMBER						
1/64	.015625	301	501	1001	—	4801	—	—
1/32	.031250	302	502	1002	—	4802	—	—
3/64	.046875	303	503	1003	—	4803	—	—
1/16	.062500	304	504	1004	—	4804	—	—
5/64	.078125	305	505	1005	—	4805	—	—
3/32	.093750	306	506	1006	—	4806	—	—
7/64	.109375	307	507	1007	—	4807	—	—
1/8	.125000	308	508	1008	—	4808	—	—
9/64	.140625	309	509	1009	—	4809	—	—
5/32	.156250	310	510	1010	—	4810	—	—
11/64	.171875	311	511	1011	—	4811	—	—
3/16	.187500	312	512	1012	—	4812	—	—
7/32	.218750	313	513	1013	—	4813	—	—
1/4	.250000	314	514	1014	—	4814	—	—
9/32	.281250	315	515	1015	—	4815	—	—
5/16	.312500	316	516	1016	—	4816	—	—
11/32	.343750	317	517	1017	—	4817	—	—
3/8	.375000	318	518	1018	—	4818	—	—
13/32	.406250	319	519	1019	—	4819	—	—
7/16	.437500	320	520	1020	—	4820	—	—
15/32	.468750	321	521	1021	—	4821	—	—
1/2	.500000	322	522	1022	—	4822	—	—
17/32	.531250	323	523	1023	—	4823	—	—
9/16	.562500	324	524	1024	1624	4824	—	—
19/32	.593750	325	525	1025	1625	4825	—	—
5/8	.625000	326	526	1026	1626	4826	—	—
21/32	.656250	327	527	1027	—	4827	—	—

¹See Table III for tolerances.

Ⓓ ENTIRE STANDARD REVISED

APPROVED 3 NOV 59 REVISED Ⓐ 17 NOV 65 Ⓑ 20 NOV 69 Ⓒ 30 JUN 78 Ⓓ 31 JUL 87

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PROCUREMENT SPECIFICATION MIL-B-1083	SUPERSEDES MS9461	PAGE 1 OF 6	

FED SUP CLASS
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TABLE I. Dash numbers and dimensions. - Continued

ØD NOMINAL BALL DIAMETER	BASIC DIAMETER ^{1/}	GRADE						
		3	5	10	16	48	100	200
		DASH NUMBER						
11/16	.687500	328	528	1028	—	4828	—	—
23/32	.718750	329	529	1029	—	4829	—	—
3/4	.750000	330	530	1030	—	4830	—	—
25/32	.781250	—	—	—	—	4831	—	—
13/16	.812500	—	—	—	—	4832	—	—
27/32	.843750	—	—	—	—	4833	—	—
7/8	.875000	—	—	—	—	4834	—	—
29/32	.906250	—	—	—	—	4835	—	—
15/16	.937500	—	—	—	—	4836	—	—
31/32	.968750	—	—	—	—	4837	—	—
1	1.000000	—	—	—	—	4838	—	—
1-1/16	1.062500	—	—	—	—	4839	—	—
1-1/8	1.125000	—	—	—	—	4840	—	—
1-3/16	1.187500	—	—	—	—	4841	—	—
1-1/4	1.250000	—	—	—	—	4842	—	—
1-5/16	1.312500	—	—	—	—	4843	10043	—
1-3/8	1.375000	—	—	—	—	4844	10044	—
1-7/16	1.437500	—	—	—	—	4845	10045	—
1-1/2	1.500000	—	—	—	—	4846	10046	20046
1-9/16	1.562500	—	—	—	—	4847	10047	20047
1-5/8	1.625000	—	—	—	—	4848	10048	20048
1-11/16	1.687500	—	—	—	—	4849	10049	20049
1-3/4	1.750000	—	—	—	—	4850	10050	20050
1-13/16	1.812500	—	—	—	—	4851	10051	20051
1-7/8	1.875000	—	—	—	—	4852	10052	20052
1-15/16	1.937500	—	—	—	—	4853	10053	20053
2	2.000000	—	—	—	—	4854	10054	20054
2-1/8	2.125000	—	—	—	—	—	10055	20055
2-1/4	2.250000	—	—	—	—	—	10056	20056
2-3/8	2.375000	—	—	—	—	—	10057	20057
2-1/2	2.500000	—	—	—	—	—	10058	20058

^{1/}See Table III for tolerances

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P.A. OS Other cust AT, 99	International interest	Title BALLS, BEARING, CORROSION RESISTANT STEEL	MILITARY STANDARD MS19060
PROCUREMENT SPECIFICATION MIL-B-1083	SUPERSEDES MS 9461	PAGE 2 OF 6	

TABLE II. Tolerance by grade for individual balls.
(Tolerance in millionths of an inch)

GRADE	ALLOWABLE BALL DIAMETER VARIATION V _D	ALLOWABLE DEVIATION FROM SPHERICAL FORM W	ALLOWABLE SURFACE ROUGHNESS (ARITHMETICAL AVERAGE)
3	3	3	0.5
5	5	5	0.8
10	10	10	1.0
16	16	16	1.0
48	48	48	3.0
100	100	100	5.0
200	200	200	8.0

TABLE III. Tolerances by grade for lots of balls.
(Tolerance in millionths of an inch)

GRADE	ALLOWABLE LOT DIAMETER VARIATION	BASIC DIAMETER TOLERANCE	ALLOWABLE BALL GAGE DEVIATION		CONTAINER MARKING INCREMENT
			HIGH	LOW	
3	5	±30	+30	-30	10
5	10	±50	+50	-40	10
10	20	±100	+50	-40	10
16	32	±100	+50	-40	10
48	96	±200	1/	1/	50
100	200	±500	1/	1/	1/
200	400	±1000	1/	1/	1/

1/ Not applicable

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TABLE IV. Dash number changes.

BASIC DIAMETER	GRADE									
	10		16		48		100		200	
	OLD	NEW	OLD	NEW	OLD	NEW	OLD	NEW	OLD	NEW
0.015625	—	—	—	—	—	—	—	—	—	—
0.031250	—	—	—	—	—	—	—	—	—	—
0.046875	—	—	—	—	—	—	—	—	—	—
0.062500	1	1004	—	—	16	4804	—	—	—	—
0.078125	—	—	—	—	—	—	—	—	—	—
0.093750	2	1006	—	—	17	4806	—	—	—	—
0.109375	—	—	—	—	—	—	—	—	—	—
0.125000	3	1008	—	—	18	4808	—	—	—	—
0.140625	—	—	—	—	—	—	—	—	—	—
0.156250	4	1010	—	—	19	4810	—	—	—	—
0.171875	—	—	—	—	—	—	—	—	—	—
0.187500	5	1012	—	—	20	4812	—	—	—	—
0.218750	6	1013	—	—	21	4813	—	—	—	—
0.250000	7	1014	—	—	22	4814	—	—	—	—
0.281250	8	1015	—	—	23	4815	—	—	—	—
0.312500	9	1016	—	—	24	4816	—	—	—	—
0.343750	10	1017	—	—	25	4817	—	—	—	—
0.375000	11	1018	—	—	26	4818	—	—	—	—
0.406250	—	—	—	—	26X	4819	—	—	—	—
0.437500	12	1020	—	—	27	4820	—	—	—	—
0.468750	—	—	—	—	27X	4821	—	—	—	—
0.500000	13	1022	—	—	28	4822	—	—	—	—
0.531250	—	—	—	—	—	—	—	—	—	—
0.562500	—	—	14	1624	29	4824	—	—	—	—
0.593750	—	—	—	—	—	—	—	—	—	—
0.625000	—	—	15	1626	30	4826	—	—	—	—
0.656250	—	—	—	—	—	—	—	—	—	—
0.687500	—	—	—	—	31	4828	—	—	—	—
0.718750	—	—	—	—	—	—	—	—	—	—
0.750000	—	—	—	—	32	4830	—	—	—	—
0.781250	—	—	—	—	—	—	—	—	—	—
0.812500	—	—	—	—	33	4832	—	—	—	—
0.843750	—	—	—	—	—	—	—	—	—	—
0.875000	—	—	—	—	34	4834	—	—	—	—
0.906250	—	—	—	—	—	—	—	—	—	—
0.937500	—	—	—	—	35	4836	—	—	—	—
0.968750	—	—	—	—	—	—	—	—	—	—

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TABLE IV. Dash numbers changes. - Continued

BASIC DIAMETER	GRADE									
	10		16		48		100		200	
	OLD	NEW	OLD	NEW	OLD	NEW	OLD	NEW	OLD	NEW
1.00000	-	-	-	-	36	4838	-	-	-	-
1.06250	-	-	-	-	37	4839	-	-	-	-
1.25000	-	-	-	-	38	4840	-	-	-	-
1.18750	-	-	-	-	39	4841	-	-	-	-
1.25000	-	-	-	-	40	4842	-	-	-	-
1.31250	-	-	-	-	-	-	50	10043	-	-
1.37500	-	-	-	-	-	-	51	10044	-	-
1.43750	-	-	-	-	-	-	52	10045	-	-
1.50000	-	-	-	-	-	-	53	10046	41	20046
1.56250	-	-	-	-	-	-	54	10047	-	-
1.62500	-	-	-	-	-	-	54X	10048	-	-
1.68750	-	-	-	-	-	-	55	10049	-	-
1.75000	-	-	-	-	-	-	56	10050	42	20050
1.81250	-	-	-	-	-	-	57	10051	-	-
1.87500	-	-	-	-	-	-	58	10052	-	-
1.93750	-	-	-	-	-	-	59	10053	-	-
2.00000	-	-	-	-	-	-	-	-	43	20054
2.12500	-	-	-	-	-	-	-	-	44	20055
2.25000	-	-	-	-	-	-	-	-	45	20056
2.37500	-	-	-	-	-	-	-	-	46	20057
2.50000	-	-	-	-	-	-	-	-	47	20058

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TABLE V. Part number changes.

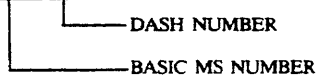
SUPERSEDED NUMBER	REPLACEMENT NUMBER
MS9461-01 thru 9461-04	MS19060-4804 thru 19060-4810 ^{1/}
MS9461-05 thru 9461-11	MS19060-4812 thru 19060-4818
MS9461-13 thru 9461-31	MS19060-4820 thru 19060-4838
MS9461-33	MS19060-4839
MS9461-35	MS19060-4840
MS9461-37	MS19060-4841
MS9461-39	MS19060-4842
MS9461-47	MS19060-4846
MS9461-55	MS19060-4850
MS9461-63	MS19060-4854

^{1/}Even numbers only

REQUIREMENTS:

- MATERIAL: CORROSION RESISTANT STEEL, CONFORMING TO THE CHEMICAL COMPOSITION OF UNS S44003 OR UNS S44004 IN ACCORDANCE WITH ASTM A276 AND AS SPECIFIED IN PROCUREMENT DOCUMENT.
- HARDNESS: SHALL BE 58-65 HRC OR EQUIVALENT.
- SURFACE ROUGHNESS: TOLERANCE LIMITS FOR SURFACE ROUGHNESS AS SPECIFIED IN TABLE II, AND IN ACCORDANCE WITH ANSI B46.1.
- MATERIAL DENSITY: SHALL BE .277 POUND PER CUBIC INCH.
- PART NUMBER: CONSISTS OF THE BASIC MS NUMBER FOLLOWED BY A DASH NUMBER FROM TABLE I.

EXAMPLE: MS19060-504



MS19060-504 INDICATES A GRADE 5 BEARING BALL OF CORROSION RESISTANT STEEL WITH A BASIC DIAMETER OF 0.062500 INCH.

NOTES:

- ALL DIMENSIONS ARE IN INCHES. COLUMN HEADINGS IN TOLERANCE TABLES ARE IN ACCORDANCE WITH AFBMA-STD-10.
- IN THE EVENT OF A CONFLICT BETWEEN THE TEXT OF THIS STANDARD AND THE REFERENCES CITED HEREIN, THE TEXT OF THIS STANDARD SHALL TAKE PRECEDENCE.
- REFERENCED GOVERNMENT (OR NONGOVERNMENT) DOCUMENTS OF THE ISSUE LISTED IN THAT ISSUE OF THE DEPARTMENT OF DEFENSE INDEX OF SPECIFICATIONS AND STANDARDS (DODISS) SPECIFIED IN THE SOLICITATION FORM A PART OF THIS STANDARD TO THE EXTENT SPECIFIED HEREIN.

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			MS19060
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