

SAE-AS27649

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Adopting Activity

Navy - AS
(Project 3110-1093)

Review Activities:

Army - AR, AT, MI
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SAE The Engineering Society
For Advancing Mobility
Land Sea Air and Space
INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

AEROSPACE STANDARD

BEARING, BALL, AIRFRAME,
ANTIFRICTION, INTERMEDIATE DUTY

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SHEET 1 OF 3

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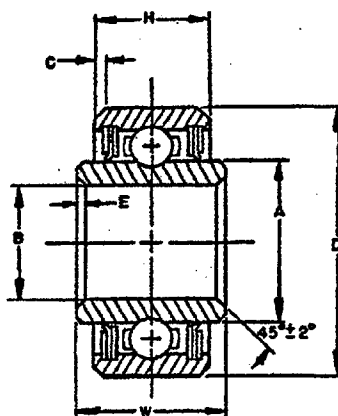
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DIMENSIONS IN INCHES

MS DASH NO.	REF. PART NO.	B	D	W	H	A	E C		RADIAL LIMIT LOAD (f) RATING LBS.	THRUST LIMIT LOAD (f) RATING LBS	RADIAL LOAD RATING (LBS.) FOR AVERAGE LIFE OF 10,000 COMPLETE (E) 90° CYCLES		WEIGHT POUNDS (APPROX)
		BORE (a)	OUTSIDE DIAMETER (a)	WIDTH INNER RING	WIDTH OUTER RING	SHOULDER DIAMETER INNER RING (APPROX.)	INNER RING (b) BORE	OUTER RING (c) O.D.			(d) CASE I	(d) CASE II	
		+0.000 -0.005	+0.000 -0.005	+0.000 -0.005	+0.000 -0.005		+0.015 -0.000						
		CORNER CHAMFER X .45°											
-3	AW3AK	.1900	.6250	.406	.312	.317	.005	.016	450	210	440	440	.018
-4	AW4AK	.2500	.7500	.438	.312	.415	.005	.016	525	250	510	510	.028
-5	AW5AK	.3125	.8125	.469	.344	.462	.015	.016	820	380	800	800	.033
-6	AW6AK	.3750	.8750	.469	.344	.520	.015	.016	820	380	800	800	.034
-8	AW8AK	.5000	1.1250	.562	.438	.681	.015	.016	1350	630	1310	1310	.075
-10	AW10AK	.6250	1.3750	.594	.469	.848	.015	.032	1840	860	1790	1790	.119
-12	AW12AK	.7500	1.6250	.656	.531	1.052	.015	.032	2400	1120	2340	2340	.189
-16	AW16AK	1.0000	2.0000	.688	.562	1.334	.015	.032	3000	1400	2920	2920	.296
-20	AW20AK	1.2500	2.2500	.688	.562	1.615	.015	.032	3600	1680	3500	3270	.355

(a) OUT OF ROUND TOLERANCES, BORE: +.0002, -.0007

OUTER DIA.: +.0005, -.0010

(b) A RADIUS GIVING APPROXIMATELY THE SAME GRIP FOR STAKING THE BEARING IN THE HOUSING WILL BE ACCEPTABLE.

(c) A RADIUS GIVING APPROXIMATELY THE SAME FILLET CLEARANCE WILL BE ACCEPTABLE.

(d) CASE I - LOAD FIXED WITH RESPECT TO OUTER RACE.

CASE II - LOAD FIXED WITH RESPECT TO INNER RACE.

(e) THESE RATINGS ARE FOR OPERATION UP TO 250°F MAX. WHEN SUBJECT TO OPERATION UP TO 350°F, THE RATINGS SHALL BE REDUCED BY 20%.

NOTES:

- ① 1. MATERIALS: RINGS: AISI 440C, CORROSION RESISTANT STEEL
BALLS: AISI 440C, CORROSION RESISTANT STEEL
2. SEALS: POLYTETRAFLUOROETHYLENE PER AMS3652 OR POLYTETRAFLUOROETHYLENE SHEET, GLASS FABRIC REINFORCED AMS3666.
3. SEAL RETAINERS: STEEL, CORROSION RESISTANT
4. LUBRICANT: MIL-G-81322 OR MIL-G-23827. MIL-G-81322 SHALL BE USED FOR OPERATION ABOVE 250°F. ALL BEARINGS SHALL BE PREPACKED WITH GREASE CONFORMING TO MIL-G-81322 UNLESS OTHERWISE SPECIFIED. IF MIL-G-23827 IS REQUIRED, ADD THE LETTER G AFTER THE MS PART NUMBER. BEARINGS SHALL BE FILLED 80% MINIMUM.
5. HARDNESS: HEAT TREAT RINGS AND BALLS TO ROCKWELL "C" 57 TO 63 AND STABILIZED FOR OPERATION AT 250°F.
6. SURFACE ROUGHNESS: RACEWAYS AND BALLS - 8 MICROINCHES AA PER ANSI B46.1.

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