

REV.
B

AS14103

FEDERAL SUPPLY CLASS
3120

THE REQUIREMENTS FOR ACQUIRING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THIS AEROSPACE STANDARD SHEET AND THE ISSUE OF THE FOLLOWING STANDARD LISTED IN THE DODISS SPECIFIED IN THE SOLICITATION: SAE AS81820.

NOTICE

THIS DOCUMENT INCLUDES CADMIUM AS A PLATING MATERIAL. THE USE OF CADMIUM HAS BEEN RESTRICTED AND/OR BANNED FOR USE IN MANY COUNTRIES DUE TO ENVIRONMENTAL AND HEALTH CONCERNS. THE USER SHOULD CONSULT WITH LOCAL OFFICIALS ON APPLICABLE HEALTH AND ENVIRONMENTAL REGULATIONS REGARDING ITS USE.

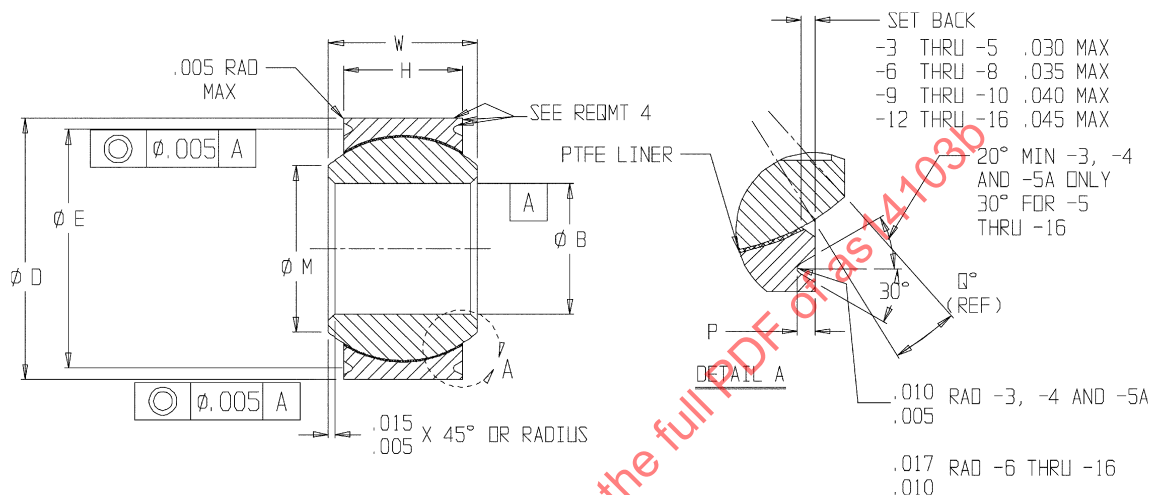


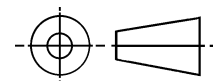
TABLE 1 - DIMENSIONS AND STRENGTHS

PART NO.	ϕB +.0000 -.0005	ϕD^{**} +.0000 -.0005	H** $\pm .005$	ϕM MIN	P +.000 -.010	Q* (REF)	W +.000 -.002	ϕE +.000 -.008	STATIC LIMIT LOAD		OSCILLATING LOAD LB	NO-LOAD ROTATIONAL BREAKAWAY TORQUE IN-LB		WT LB MAX (REF)
									RADIAL LB	AXIAL LB		STANDARD	* K TYPE	
MS14103 -3	.1900	.6250	.327	.300	.025	15	.437	.563	2500	1770	4900	0.25-5.0	0-0.5	.031
MS14103 -4	.2500	.6250	.327	.300		15	.437	.563	5500	1770	4900	0.25-5.0	0-0.5	.031
MS14103 -5	.3125	.6875	.317	.360		14	.625	.625	9400	1640	6050	0.25-8.0	0-1.0	.035
MS14103 -6	.3750	.8125	.406	.466		8	.500	.712	13700	2630	8310	0.25-8.0	0-1.0	.080
MS14103 -7	.4375	.9375	.442	.537	.035	10	.562	.837	20700	3650	11750	0.25-8.0	0-1.0	.080
MS14103 -7A	.4375	.9062	.442	.537		10	.562	.806	19700	3650	11750	0.25-8.0	0-1.0	.080
MS14103 -8	.5000	1.0000	.505	.607		9	.625	.900	21400	4970	14950	0.25-12.0	0-2.0	.100
MS14103 -9	.5625	1.1250	.536	.721		10	.687	1.025	26600	5370	18100	0.25-12.0	0-2.0	.135
MS14103 -10	.6250	1.1875	.567	.747	.055	12	.750	1.087	29000	6130	20250	0.25-12.0	0-2.0	.160
MS14103 -12	.7500	1.3750	.630	.845		13	.875	1.251	37000	7730	26200	0.25-12.0	0-2.0	.240
MS14103 -14	.8750	1.6250	.755	.995		6	.875	1.501	65200	10800	33600	0.25-12.0	0-2.0	.350
MS14103 -16	1.0000	2.1250	1.005	1.269		12	1.375	2.001	104000	19300	56250	0.25-12.0	0-2.0	.970

* SEE REQUIREMENT 5 "NO-LOAD TORQUE" AND NOTE B.

** SEE NOTE 7.

THIRD ANGLE PROJECTION



PREPARED BY AIRFRAME CONTROL BEARINGS GROUP

SAE Aerospace
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AEROSPACE STANDARD
(R) BEARING, PLAIN, SELF-LUBRICATING, SELF-ALIGNING,
LOW SPEED, WIDE, GROOVED RACE,
-65 TO 325 °F

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SHEET 1 OF 3

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TABLE 2 - OVERSIZE BEARING DIMENSIONS ^{1/} ^{2/}
RESTRICTED USAGE FOR REPAIR WORK ONLY
.010 AND .020 OVERSIZE OUTSIDE DIAMETER FOR
REPLACEMENT OF BEARINGS SHOWN ON SHEET 1

PART NO.	NOMINAL SIZE	1st OVERSIZE (.010) ØD
MS14103 -3 T	.1875	.6350
MS14103 -4 T	.2500	.6350
MS14103 -5 T	.3125	.6975
MS14103 -6 T	.3750	.8225
MS14103 -7 T	.4375	.9475
MS14103 -7A T	.4375	.9162
MS14103 -8 T	.5000	1.0100
MS14103 -9 T	.5625	1.1350
MS14103 -10 T	.6250	1.1975
MS14103 -12 T	.7500	1.3850
MS14103 -14 T	.8750	1.6350
MS14103 -16 T	1.0000	2.1350

PART NO.	NOMINAL SIZE	2nd OVERSIZE (.020) ØD
MS14103 -3 U	.1875	.6450
MS14103 -4 U	.2500	.6450
MS14103 -5 U	.3125	.7075
MS14103 -6 U	.3750	.8325
MS14103 -7 U	.4375	.9575
MS14103 -7A U	.4375	.9262
MS14103 -8 U	.5000	1.0200
MS14103 -9 U	.5625	1.1450
MS14103 -10 U	.6250	1.2075
MS14103 -12 U	.7500	1.3950
MS14103 -14 U	.8750	1.6450
MS14103 -16 U	1.0000	2.1450

^{1/} BEFORE INITIATING A REPAIR PROCEDURE TO USE AN OVERSIZE BEARING, APPROVAL FOR MODIFYING AND REIDENTIFYING THE BEARING HOUSING MUST BE OBTAINED FROM THE COGNIZANT ENGINEERING AUTHORITY.

^{2/} REFER TO NAS0331 FOR INSTALLATION PROCEDURE AND STAKING FORCES.

REQUIREMENTS:

- MATERIAL: BALL, 440C (AMS 5630, AMS 5880, OR AMS 5618) OR PH13-8Mo AMS 5629 H1000 (SEE NOTE 8a) RACE, AMS 5643 (17-4PH)
LINER, PTFE SHALL BE INCLUDED IN THE LINER
- SURFACE TEXTURE: BALL DIA Ra 8 MAX; BALL FACES Ra 16 MAX; BALL BORE AND RACE DIA Ra 32 MAX; ALL OTHER METALLIC SURFACES Ra 125 MAX. LINER SURFACES ARE EXEMPT FROM SURFACE TEXTURE MEASUREMENTS.
- HARDNESS: BALL, 440C 55-62 Rc OR PH13-8Mo Rc 43 MIN; RACE Rc 28 MIN/Rc 37 MAX BEFORE SWAGING.
- SURFACE FINISH:

RACE: PLATING, WHEN SPECIFIED, SHALL BE ZINC-NICKEL PLATING PER AMS 2417, TYPE 2, OR CADMIUM PLATING PER AMS-QQ-P-416, TYPE II, CLASS 2, WITH A THICKNESS RANGE OF 0.0003 TO 0.0006 INCHES. PLATE ON THE OUTSIDE DIAMETER SURFACE AND ON THE FLAT BETWEEN THE OUTSIDE DIAMETER AND THE GROOVE. PLATING RUNOUT MAY OCCUR EITHER IN THE GROOVE OR IN THE AREA BETWEEN THE GROOVE AND THE BALL.

BALL: PH13-8Mo, PASSIVATE PER AMS-QQ-P-35 OR ASTM A 967; 440C, PASSIVATE PER AMS-QQ-P-35 OR ASTM A 967, OPTIONAL.
- NO-LOAD TORQUE: WHEN THE LETTER "K" IS PRESENT IN THE PART NUMBER, LOWER VALUES OF NO-LOAD TORQUE ARE SPECIFIED PER TABLE 1. IF THE MEASURED TORQUE OF A "K" TYPE BEARING IS LESS THAN 0.1 INCH-POUND, THE INTERNAL RADIAL PLAY SHALL BE MEASURED AND SHALL NOT EXCEED THE FOLLOWING:

DASH NO.	MAXIMUM RADIAL PLAY	MAXIMUM AXIAL PLAY
-3K THRU -12K	0.0007 INCH	0.0021 INCH
-14K THRU -16K	0.0010 INCH	0.0030 INCH

THE INTERNAL AXIAL PLAY SHALL BE MEASURED FOR ALL "K" TYPE BEARINGS.

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