

REV.
BFEDERAL SUPPLY CLASS
3120

AS14104

NOTICE

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 PROCUREMENT DOCUMENT: SAE AS81820.

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.

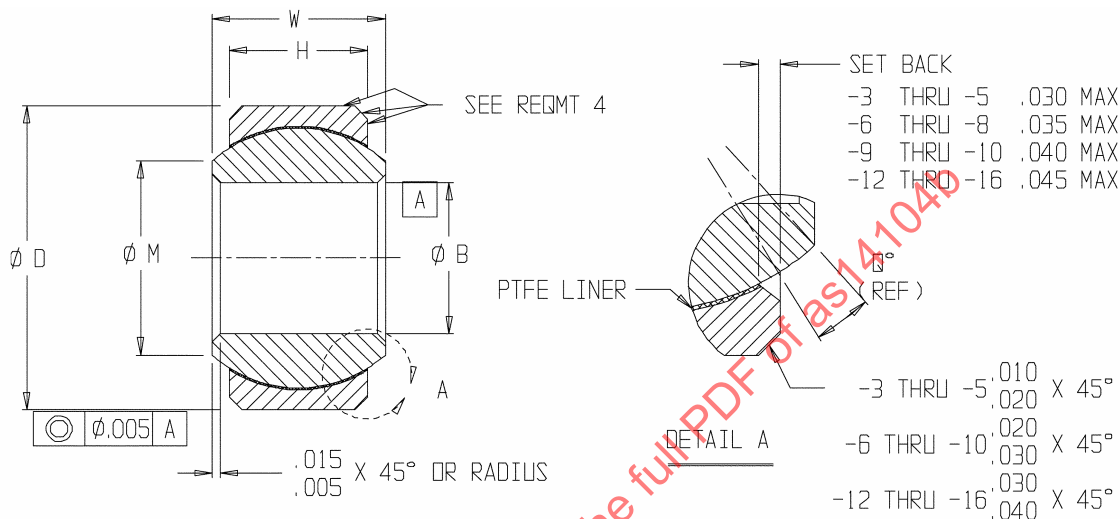


FIGURE 1

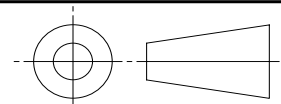
TABLE 1 - DIMENSIONS AND STRENGTHS

PART NO.	ϕB +.0000 -.0005	ϕD^{**} +.0000 -.0005	H^{**} +.0005 -.0005	ϕM MIN	Q^* (REF)	W +.000 -.002	STATIC LIMIT LOAD		OSCILLATING LOAD LB	NO-LOAD ROTATIONAL BREAKAWAY TORQUE IN-LB		WT LB MAX (REF)
							RADIAL LB	AXIAL LB		STANDARD	"K" TYPE	
MS14104- 3	.1900	.5625	.218	.293	10	.281	3975	150	1500	0.25- 5.0	0-0.5	.020
MS14104- 4	.2500	.6562	.250	.364	10	.343	6040	430	3320	0.25- 5.0	0-0.5	.020
MS14104- 5	.3125	.7500	.281	.419	10	.375	8750	700	5460	0.25- 8.0	0-1.0	.030
MS14104- 6	.3750	.8125	.312	.475	9	.406	10540	1100	6600	0.25- 8.0	0-1.0	.040
MS14104- 7	.4375	.9062	.343	.530	8	.437	13200	1400	8050	0.25- 8.0	0-1.0	.050
MS14104- 8	.5000	1.0000	.390	.600	8	.500	17900	2100	10400	0.25- 8.0	0-1.0	.070
MS14104- 9	.5625	1.0937	.437	.670	8	.562	23200	3680	13000	0.25- 8.0	0-1.0	.090
MS14104-10	.6250	1.1875	.500	.739	8	.625	30500	4720	16450	0.25- 8.0	0-1.0	.120
MS14104-12	.7500	1.4375	.593	.920	8	.750	46400	6750	23600	0.25- 8.0	0-1.0	.210
MS14104-14	.8750	1.5625	.703	.980	8	.875	62200	9350	30250	0.25-12.0	0-2.0	.270
MS14104-16	1.0000	1.7500	.797	1.118	9	1.000	82200	12160	38000	0.25-12.0	0-2.0	.390

* SEE REQUIREMENT 5 "NO-LOAD TORQUE" AND NOTE 8.

**SEE NOTE 7

THIRD ANGLE PROJECTION



CUSTODIAN: SAE AIRFRAME CONTROL BEARINGS GROUP

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

BEARING, PLAIN, SELF-LUBRICATING,
SELF-ALIGNING, LOW SPEED, NARROW,
CHAMFERED RACE, -65 TO 325 °F

AS14104
SHEET 1 OF 3

**REV.
B**

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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) ϕ D	PART NO.	NOMINAL SIZE	2ND OVERSIZE (.020) ϕ D
MS14104- 3T	.1875	.5725	MS14104- 3U	.1875	.5825
MS14104- 4T	.2500	.6662	MS14104- 4U	.2500	.6762
MS14104- 5T	.3125	.7600	MS14104- 5U	.3125	.7700
MS14104- 6T	.3750	.8225	MS14104- 6U	.3750	.8325
MS14104- 7T	.4375	.9162	MS14104- 7U	.4375	.9262
MS14104- 8T	.5000	1.0100	MS14104- 8U	.5000	1.0200
MS14104- 9T	.5625	1.1037	MS14104- 9U	.5625	1.1137
MS14104-10T	.6250	1.1975	MS14104-10U	.6250	1.2075
MS14104-12T	.7500	1.4475	MS14104-12U	.7500	1.4575
MS14104-14T	.8750	1.5725	MS14104-14U	.8750	1.5825
MS14104-16T	1.0000	1.7600	MS14104-16U	1.0000	1.7700

- 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, 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 Rc 55-62 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 CHAMFER. PLATING RUNOUT SHALL OCCUR IN THE SIDE FACE AREA BETWEEN THE CHAMFER 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	0.0028 INCH
-14K THRU -16K	0.0010 INCH	0.0040 INCH

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