

AS14101

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THIRD ANGLE PROJECTION



ISSUED 1998-07

PREPARED BY AIRFRAME CONTROL BEARINGS GROUP

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

AEROSPACE STANDARD

BEARING, PLAIN, SELF-LUBRICATING,
SELF-ALIGNING, LOW SPEED, NARROW,
GROOVED OUTER RING, -65° TO 325°F

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SHEET 1 OF 4

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THE REQUIREMENTS FOR ACQUIRING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DODISS SPECIFIED IN THE SOLICITATION: MIL-B-81820.

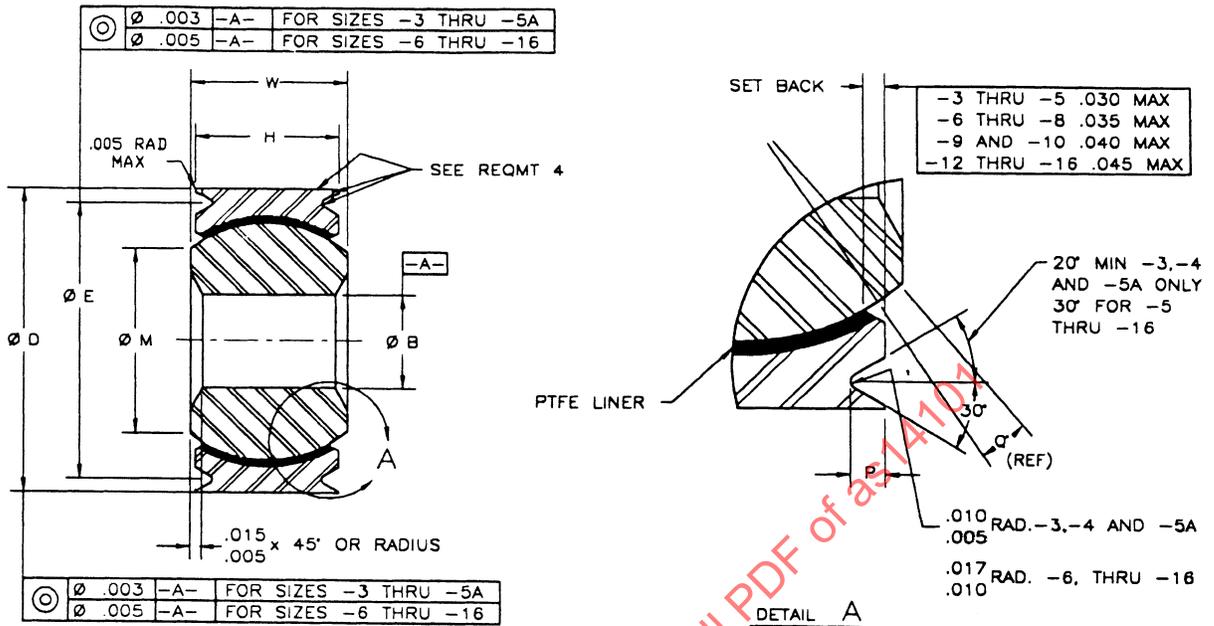


TABLE I. DIMENSIONS AND STRENGTHS

DASH 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	
-3	.1900	.5625	.218	.293	.025	10	.281	.500	3975	150	1500	0.25-5.0	0-0.5	.020
-4	.2500	.6562	.250	.364			.343	.594	6040	430	3320			
-5	.3125	.7500	.281	.419			.375	.650	8750	700	5460			
-5A	.3125	.7500	.281	.419	.035	9	.375	.660	8750	700	5460	0.25-8.0	0-1.0	.030
-6	.3750	.8125	.312	.475			.406	.712	10540	1100	6600			
-7	.4375	.9062	.343	.530			.437	.806	13200	1400	8050			
-8	.5000	1.0000	.390	.600	.055	8	.500	.876	17900	2100	10400	0.25-12.0	0-2.0	.070
-9	.5625	1.0937	.437	.670			.562	.970	23200	3680	13000			
-10	.6250	1.1875	.500	.739			.625	1.063	30500	4720	16450			
-12	.7500	1.4375	.593	.920	.055	9	.750	1.313	46400	6750	23600	0.25-12.0	0-2.0	.270
-14	.8750	1.5625	.703	.980			.875	1.438	62200	9350	30250			
-16	1.0000	1.7500	.797	1.118			1.000	1.626	82200	12160	38000			

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

** SEE NOTE 7.

MS14101-5 INACTIVE FOR NEW DESIGN

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

DASH NO.	NOMINAL SIZE	1st OVERSIZE (.010) ØD
-3	.1875	.5725
-4	.2500	.6662
-5(A)	.3125	.7600
-6	.3750	.8225
-7	.4375	.9162
-8	.5000	1.0100
-9	.5625	1.1037
-10	.6250	1.1975
-12	.7500	1.4475
-14	.8750	1.5725
-16	1.0000	1.7600

DASH NO.	NOMINAL SIZE	2nd OVERSIZE (.020) ØD
-3	.1875	.5825
-4	.2500	.6762
-5(A)	.3125	.7700
-6	.3750	.8325
-7	.4375	.9262
-8	.5000	1.0200
-9	.5625	1.1137
-10	.6250	1.2075
-12	.7500	1.4575
-14	.8750	1.5825
-16	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 OR PH13-8Mo AMS-5629 H1000 (SEE NOTE 8a).
OUTER RING, AMS-5643 (17-4PH).
LINER, PTFE SHALL BE INCLUDED IN THE LINER.
- SURFACE TEXTURE: BALL DIA. Ra 8 MAX; BORE, BALL, FACE, AND OUTER RING DIA Ra 32 MAX; ALL OTHERS Ra 125 MAX.
- HARDNESS: BALL, 440C 55-62 Rc OR PH13-8Mo Rc 43 MIN; OUTER RING; Rc 28 MIN/Rc 37 MAX BEFORE SWAGING.
- SURFACE FINISH:

OUTER RING: PLATING WHEN SPECIFIED, SHALL BE ZINC-NICKEL PLATING PER AMS-2417, TYPE 2, OR CADMIUM PLATING PER 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 QQ-P-35; 440C, PASSIVATE PER QQ-P-35, OPTIONAL.
- NO-LOAD TORQUE: WHEN THE LETTER "K" IS PRESENT IN THE PART NUMBER, LOWER VALUES OF NO-LOAD TORQUE ARE SPECIFIED PER TABLE I. 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.