

THE REQUIREMENTS FOR ACQUIRING THE PRODUCT(S) DESCRIBED HEREIN SHALL BE THE SAME AS THE REQUIREMENTS FOR THE PRODUCT(S) DESCRIBED IN THE DODDSS SPEC SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE SOLICITATION: MIL-B-81820

THIS SPECIFICATION IS APPROVED FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE.

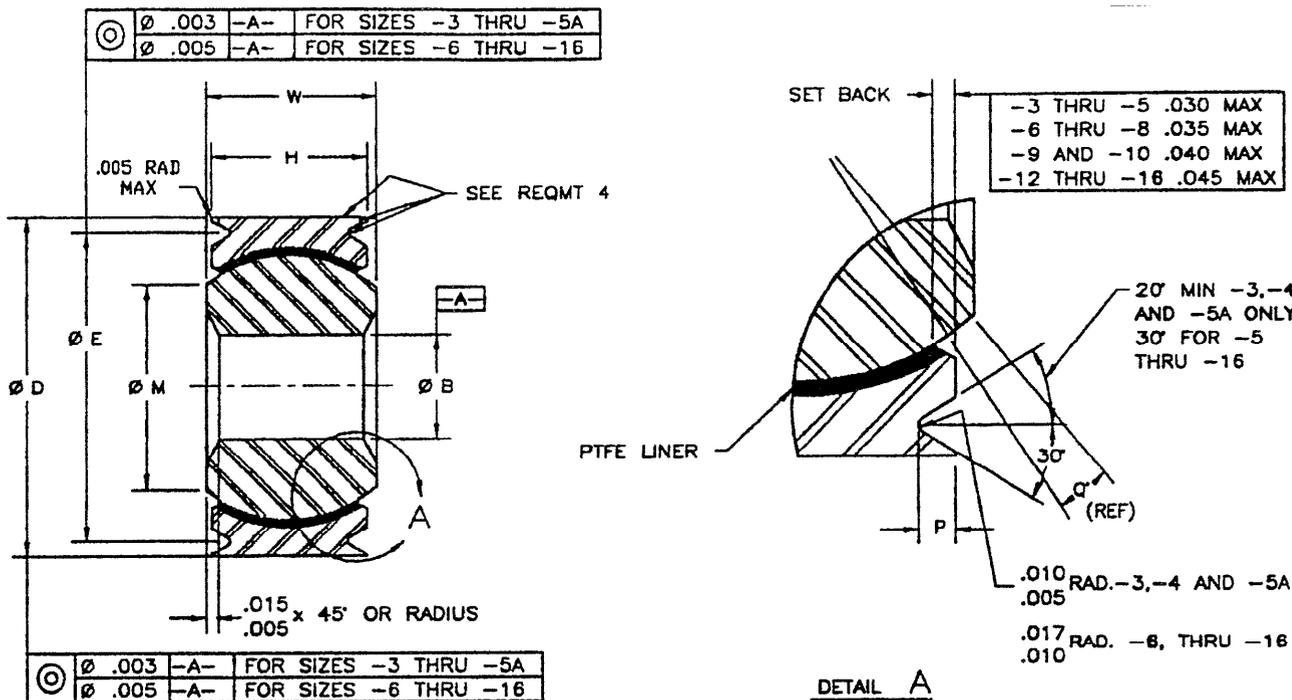


TABLE I. DIMENSIONS AND STRENGTHS

DASH NO.	∅B +.0000 -.0005	∅D** +.0000 -.0005	H** ±.005	∅M MIN	P +.000 -.010	Q' (REF)	W +.000 -.002	∅E +.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	.584	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			.040
-7	.4375	.9062	.343	.530			.437	.806	13200	1400	8050			.050
-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			.090
-10	.6250	1.1875	.500	.739			.625	1.063	30500	4720	16450			.120
-12	.7500	1.4375	.593	.920	9	1.000	.750	1.313	46400	6750	23600			.210
-14	.8750	1.5625	.703	.980			.875	1.438	62200	9350	30250			.270
-16	1.0000	1.7500	.797	1.118			1.000	1.626	82200	12160	38000			.390

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

\*\* SEE NOTE 7.

MS14101-5 INACTIVE FOR NEW DESIGN

⊙ DENOTES CHANGES

PREPARING ACTIVITY: NAVY - AS CUSTODIANS: ARMY-AV NAVY-AS AIR FORCE-99 DLA- REVIEW: ARMY-AR, AT, ME, DLA-IS, USAF-84 PROJECT NUMBER: 3120-0742-05	<b>MILITARY SPECIFICATION SHEET</b>  TITLE BEARING, PLAIN, SELF-LUBRICATING, SELF-ALIGNING, LOW SPEED, NARROW, GROOVED OUTER RING, -65° TO 325° F	SPECIFICATION SHEET NUMBER <b>MS14101</b> SUPERSEDING MS14101 AMSC - N/A	REV J 5 DEC 94 REV H 24 JAN 94 FSC 3120
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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 1

DASH NO.	NOMINAL SIZE	1st OVERSIZE (.010) #D
-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) #D
-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 Ro 8 MAX; BORE, BALL, FACE, AND OUTER RING DIA Ro 32 MAX; ALL OTHERS Ro 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-48, TYPE H, 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
- 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.

PREPARING ACTIVITY: NAVY - AS

CUSTODIANS: ARMY-AV NAVY- As

AIR FORCE- 99 DIA-

REVIEW: ARMY-AR, AT, ME, DLA-IS, USAF-84

PROJECT NUMBER: 3120-0742-05

DISTRIBUTION STATEMENT A. APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.

MILITARY SPECIFICATION SHEET

TITLE

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

SPECIFICATION SHEET NUMBER

MS 14101

SUPERSEDING  
MS14101

AMSC - N/A

REV J

5 DEC 94

REV H

24 JAN 94

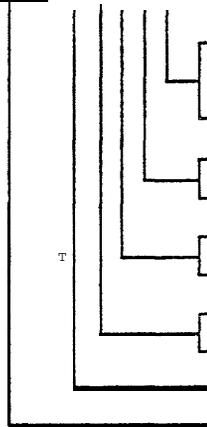
FSC 3120

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## NOTES:

1. DIMENSIONS ARE IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE; DECIMALS  $\pm .010$  AND ANGLES  $\pm 0.5$ .
2. BREAK SHARP EDGES AND CORNERS AND REMOVE AU. BURRS AND SLIVERS.
3. THE -3 SIZE BEARING IS EXEMPT FROM THE "RADIAL STATIC UNIT LOAD" TEST BECAUSE THE LOAD CAPACITY OF THE BEARING IS PIN CRITICAL
4. WHEN TESTED TO THE FLUID CONTAMINATION AND SUB-ZERO TEMPERATURE REQUIREMENTS OF THE PROCUREMENT SPECIFICATION. THE OSCILLATING LOAD SHALL BE DECREASED TO 75% OF THE SPECIFIED LOAD.
5. WHEN FLUIDS AND ELEVATED TEMPERATURES (ABOVE 200° F) ARE BOTH PRESENT IN AN Application, THEN Reductions IN OPERATING LOADS OR BEARING LIFE MAY BE REQUIRED.
6. DASH NUMBER Designates NOMINAL BORE DIA IN SIXTEENTHS OF AN INCH.
7. DIMENSION "D" TO BE MET AFTER PLATING. DIMENSION "H" TO BE MET BEFORE PLATING WHEN APPLICABLE.
8. EXAMPLE OF PART NO.

MS14101 -6 C P K T = .375 NOMINAL BORE DIA PH13-8Mo BALL MATERIAL ZINC-NICKEL PLATED, LOW TORQUE, .010 INCH OVERSIZE O.D., (DIMENSION D).



- ABSENCE OF THE LETTERS "T" AND "U" INDICATE STANDARD OUTER DIAMETER (D), (SEE TABLE 9).
- T - .010 OVERSIZE D (FOR REPAIR ONLY, SEE TABLE II).
- u = .020 OVERSIZE D (FOR REPAIR ONLY, SEE TABLE II).
- ABSENCE OF THE LETTER "K" INDICATES STANDARD BREAKAWAY TORQUE (SEE TABLE 1). "
- LETTER "K" INDICATES LOW BREAKAWAY TORQUE (SEE TABLE 1).
- ABSENCE OF THE LETTER "P" INDICATES NO PLATING.
- LETTER "P" INDICATES ZINC-NICKEL OR CADMIUM PLATING (SEE REQUIREMENT 4).
- ABSENCE OF THE LETTER "C" INDICATES 440C BALL MATERIAL.
- LETTER 1 C " INDICATES PH13-8Mo BALL MATERIAL.
- SIZE - BORE DIAMETER (DASH NO. FROM TABLE 1).
- MS NUMBER.

- 8a. BALL MATERIAL SHALL BE 440C AMS-5630 UNLESS "C" CALLOUT IS PRESENT IN PART NUMBER. "C" INDICATES PH13-8Mo AMS-5629 H1000.
9. IN THE EVENT OF A CONFLICT BETWEEN THE TEXT OF THIS STANDARD AND THE REFERENCE CITED HEREIN, THE TEXT OF THIS STANDARD SHALL TAKE PRECEDENCE.
10. REFERENCED GOVERNMENT (OR NON-GOVERNMENT) 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.

PREPARING ACTIVITY: NAVY - AS CUSTODIANS: ARMY-AV      NAVY- AS AIR FORCE-99      DLA- REVIEW: ARMY-AR, AT, ME, DLA-IS, USAF-84 PROJECT NUMBER 3120-0742-05	MILITARY SPECIFICATION SHEET		SPECIFICATION SHEET NUMBER		
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			SUPERSADING      REV H MS14101      24 JAN 94		
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