

REV.  
C

AS24464™

FEDERAL SUPPLY CLASS  
3110

RATIONALE

AS24464C IS A FIVE-YEAR REVIEW.

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS39901.

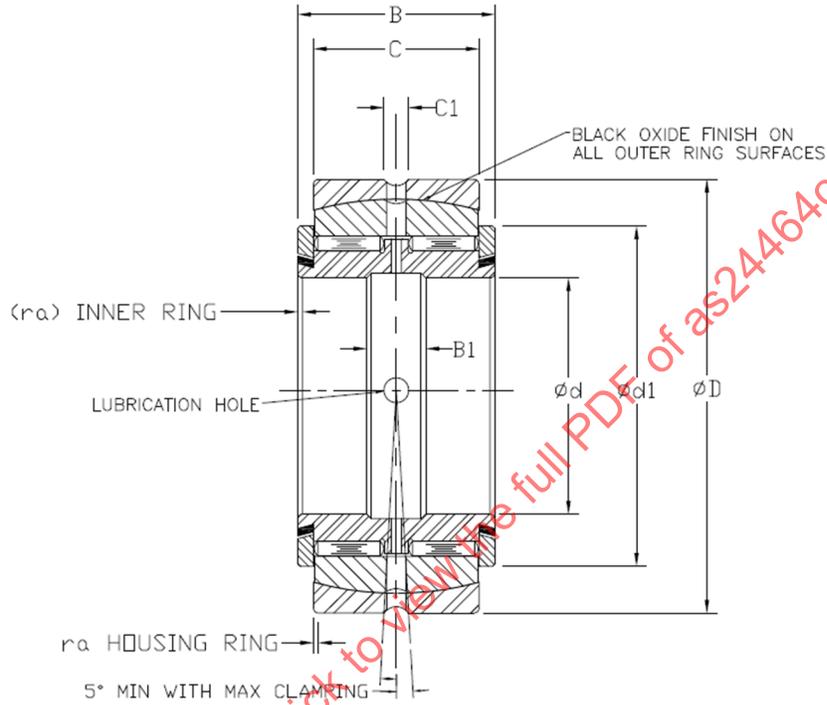
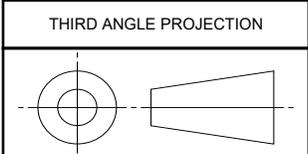


FIGURE 1

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CUSTODIAN: ACBG/ACBG-2

PROCUREMENT SPECIFICATION: AS39901



**AEROSPACE STANDARD**

BEARING, ROLLER, NEEDLE-DOUBLE ROW,  
HEAVY DUTY, SELF-ALIGNING,  
TYPE IV, ANTIFRACTION, INCH

AS24464™  
SHEET 1 OF 4

REV.  
C

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ISSUED 1998-04 REVISED 2023-03

**TABLE 1 - DIMENSIONS**

DASH NO.	d BORE	D HOUSING DIA	B OVERALL WIDTH	C OUTER WIDTH	d1 WASHER DIA	C1 GROOVE WIDTH	ra 1/ FILLET MAX	TOTAL RADIAL PLAY MAX	LIMIT 2/ LOAD RATING (LBF)	MASS (APPROX) LB
-6	.3750	1.1875	.562	.469	.812	.125	.022	.0030	4530	.130
-7	.4375	1.3125	.625	.531	.875	.125	.032	.0031	5870	.174
-8	.5000	1.5000	.750	.656	1.031	.125	.032	.0031	8670	.293
-9	.5625	1.6875	.875	.781	1.093	.156	.032	.0031	11800	.420
-10	.6250	1.7500	1.000	.906	1.156	.156	.032	.0032	15500	.520
-12	.7500	1.8750	1.125	1.000	1.281	.156	.032	.0034	20000	.630
-14	.8750	2.1250	1.250	1.125	1.500	.156	.032	.0037	25800	.870
-16	1.0000	2.2500	1.250	1.125	1.625	.156	.032	.0041	28700	.960
-20	1.2500	2.5000	1.250	1.049	1.906	.156	.032	.0041	31400	1.07
-24	1.5000	2.7500	1.250	1.049	2.156	.156	.032	.0041	36600	1.23
-32	2.0000	3.2500	1.250	1.049	2.656	.156	.032	.0045	47100	1.49
-40	2.5000	3.7500	1.250	1.049	3.154	.156	.032	.0046	57500	1.78
-48	3.0000	4.2500	1.250	1.049	3.656	.156	.032	.0056	67900	2.06
-56	3.5000	4.8750	1.250	1.049	4.219	.156	.032	.0057	80100	2.65

- 1/ THE CHAMFER ON BEARINGS MUST CLEAR THE MAXIMUM FILLET RADIUS GIVEN IN THE TABLE. THIS SPECIFICATION DOES NOT CONTROL BEARING CHAMFER CONTOURS.
- 2/ THE LIMIT LOAD RATING CAN BE DEFINED AS THE MAXIMUM RADIAL LOAD WHICH CAN BE APPLIED TO A BEARING WITHOUT IMPAIRING THE SUBSEQUENT FUNCTIONING OF THE BEARING IN AIRFRAME APPLICATIONS. THE ULTIMATE OR STATIC FRACTURE LOAD RATING IS NOT LESS THAN 1.5 TIMES THE LIMIT LOAD RATING.

**TABLE 2 - MOUNTING DATA**

DASH NUMBER	da CLAMPING DIAMETER		HOUSING SIZE +0.0000 -0.0001	
	MAX	MIN	LOW	HIGH
-6	.781	.641	1.1867	1.1872
-7	.844	.703	1.3116	1.3122
-8	1.000	.844	1.4991	1.4997
-9	1.062	.891	1.6866	1.6572
-10	1.094	.953	1.7491	1.7497
-12	1.156	1.070	1.8741	1.8747
-14	1.375	1.250	2.1238	2.1248
-16	1.500	1.375	2.2488	2.2496
-20	1.781	1.625	2.4988	2.4996
-24	2.062	1.875	2.7488	2.7496
-32	2.593	2.375	3.2496	3.2505
-40	3.062	2.875	3.7485	3.7495
-48	3.562	3.375	4.2485	4.2495
-56	4.141	3.969	4.8735	4.8745

**TABLE 3 - OIL HOLE DATA**

BORE - DASH NO.		NUMBER OF HOLES		
OVER	INCL	INNER RING	OUTER RING	SPHERICAL HOUSING
5	10	2	4	2
10	56	4	4	2

**TABLE 4 - TOLERANCE LIMITS**

Ød BASIC BORE		ALLOWABLE DEVIATION FROM d OF SINGLE MEAN DIA d		ALLOWABLE DEVIATION FROM OVERALL WIDTH B		ALLOWABLE DEVIATION FROM WASHER OUTSIDE DIA d <sub>1</sub>		ALLOWABLE DEVIATION FROM LUBRICATION GROOVE WIDTH B1	
OVER	INCL	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW
.3125	3.0000	+0	-.0007	+0	-.005	+.010	-.010	+.031	-.031
3.0000	3.5000	+0	-.0006	+0	-.005	+.010	-.010	+.031	-.031

ØD BASIC OUTSIDE DIAMETER		ALLOWABLE DEVIATION FROM D OF SINGLE MEAN DIA D		ALLOWABLE DEVIATION FROM OUTER RING WIDTH C		ALLOWABLE DEVIATION FROM LUBRICATION GROOVE WIDTH DIA C <sub>1</sub>	
OVER	INCL	HIGH	LOW	HIGH	LOW	HIGH	LOW
1.0625	1.8750	+0	-.0005	+0	-.005	+0	-.062
1.8750	2.7500	+0	-.0006	+0	-.005	+0	-.062
2.7500	4.2500	+0	-.0008	+0	-.005	+0	-.062
4.2500	4.8750	+0	-.0010	+0	-.005	+0	-.062

**REQUIREMENTS:**

**1. MATERIAL:**

- a. RINGS AND ROLLERS: SAE 52100 PER ASTM A295/A295M, AMS6440, OR AMS6444.
- b. ENDWASHERS: AISI 1070 - 1090 STEEL OR SAE 52100 STEEL PER ASTM A295/A295M, AMS6440, OR AMS6444.
- c. RETAINING RINGS: BRASS (OPTIONAL).

**2. HEAT TREATMENT:**

- a. RINGS AND ROLLERS: HARDEN AND TEMPER TO 58 TO 66 HRC.
- b. ENDWASHERS: HARDEN AND TEMPER TO 51 TO 60 HRC.

**3. FINISH OR PLATING:**

NO SUFFIX CODE: ALL EXTERNAL SURFACES EXCEPT BORE SHALL BE CADMIUM PLATED PER AMS-QQ-P-416, TYPE 1, CLASS 2, .0003 TO .0006 INCH THICK.

SUFFIX CODE "E": ALL EXTERNAL SURFACES EXCEPT BORE SHALL BE ZINC-NICKEL PLATED PER AMS2417, TYPE 2, GRADE B, .0003 TO .0006 INCH THICK.

THE OUTER RING SHALL HAVE BLACK OXIDE PER MIL-DTL-13924.

**4. LUBRICATION: MIL-PRF-81322 OR MIL-PRF-23827 TYPE 1. ALL BEARINGS SHALL BE PACKED WITH MIL-PRF-81322 GREASE UNLESS OTHERWISE SPECIFIED. IF MIL-PRF-23827 TYPE 1 GREASE IS REQUIRED, ADD THE SUFFIX "G" TO THE MS PART NUMBER.**

**5. SURFACE TEXTURE PER ASME B46.1:**

RACEWAYS 16 MICROINCHES Ra MAXIMUM  
 BORE AND OD 40 MICROINCHES Ra MAXIMUM  
 WASHER ENDFACES 63 MICROINCHES Ra MAXIMUM  
 NEEDLE OD 8 MICROINCHES Ra MAXIMUM

**6. MARKING: THE MARKING SHALL CONSIST OF THE MS PART NUMBER, THE MANUFACTURER'S CAGE CODE MARKED IN ACCORDANCE WITH MIL-STD-130, AND A LOT CONTROL NUMBER IF SPACE IS AVAILABLE.**

	<b>AEROSPACE STANDARD</b>	<b>AS24464™</b> SHEET 3 OF 4	<b>REV.</b> <b>C</b>
	BEARING, ROLLER, NEEDLE-DOUBLE ROW, HEAVY DUTY, SELF-ALIGNING, TYPE IV, ANTIFRACTION, INCH		