

RATIONALE

AS24461 REV C IS A FIVE YEAR REVIEW. UPDATED MATERIAL AND HEAT TREAT SPECIFICATIONS TO CURRENT REQUIREMENTS. ADDED LUBRICANT CODE "G". REFORMATTED TABLES AND GRAPHICS. REMOVED METRIC TABLES. ADDED ZINC NICKEL PLATING CODE "E" AND REQUIRED GRADE B. AND ADDED CAD WARNING NOTE.

REV.
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AS24461

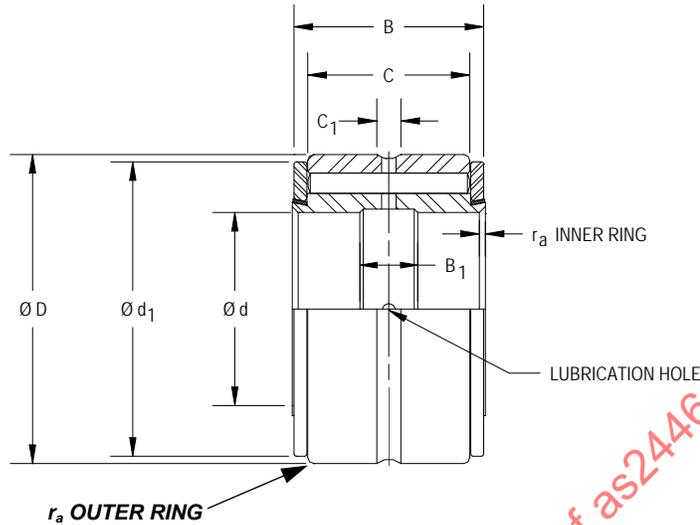
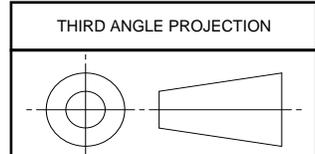


FIGURE 1 - PART CONFIGURATION
TABLE 1 - DIMENSIONS AND LOADS

DASH NO.	ød BORE	ØD OUTER RING OUTER DIA.	B OVERALL WIDTH	C OUTER RING WIDTH	ød1 WASHER OUTSIDE DIA.	B1 LUBRICATION GROOVE WIDTH	C1 LUBRICATION GROOVE WIDTH	1/ra FILLET MAX.	TOTAL RADIAL INTERNAL CLEARANCE MAX.	CLAMPING DIA. MIN.	LIMIT LOAD RATING lb _f	MASS (APPROX) lbs.	
-3	.1900	.6875	.312	.218	.625	NONE	.062	.022	.0017	.438	1800	.028	
-4	.2500	.7500	.375	.281	.687		.093			.516	2870	.040	
-5	.3125	.8125	.437	.344	.750		.125			.578	4080	.057	
-6	.3750	.8750	.562	.469	.812	.188	.156	.0018	.641	6330	.075		
-7	.4375	.9375	.625	.531	.875				.703	8000	.097		
-8	.5000	1.1250	.750	.656	1.062				.844	11600	.165		
-9	.5625	1.1875	.875	.781	1.094	.250	.125	.0019	.891	15000	.207		
-10	.6250	1.2500	1.000	.906	1.156				.953	18900	.252		
-12	.7500	1.3750	1.125	1.000	1.281				1.078	23900	.336		
-14	.8750	1.6250	1.250	1.125	1.500	.375	.156	.0022	1.250	30500	.423		
-16	1.0000	1.7500		1.625	1.906				2.156	.710	33900	.510	
-20	1.2500	2.0000		2.156	2.406				2.500	.600	37900	.600	
-24	1.5000	2.2500	1.049	1.049	2.156	.032	.156	.0026	1.875	44200	.710		
-28	1.7500	2.5000			2.406				2.656	2.906	.780	50500	.780
-32	2.0000	2.7500			2.656				2.906	3.156	.880	56800	.880
-36	2.2500	3.0000	1.250	1.049	2.906	.037	.156	.0032	2.625	63100	.980		
-40	2.5000	3.2500			3.156				3.406	3.656	1.06	69400	1.06
-44	2.7500	3.5000			3.406				3.656	3.906	1.150	75700	1.150
-48	3.0000	3.7500	1.049	1.049	3.656	.039	.156	.0039	3.375	82000	1.240		
-52	3.2500	4.0000			3.906				4.219	4.469	1.340	88300	1.340
-56	3.5000	4.3750			4.219				4.469	4.719	1.440	96700	1.730
-60	3.7500	4.6250	1.250	1.049	4.469	.044	.156	.0041	4.218	103000	1.840		
-64	4.0000	4.8750			4.719				4.969	5.219	1.990	109000	1.990
-80	5.0000	5.8750			5.688				5.688	5.688	2.750	135000	2.750

1/ THE CHAMFER ON BEARINGS MUST CLEAR THE MAXIMUM FILLET RADIUS GIVEN IN THE TABLE. THE SPECIFICATION DOES NOT CONTROL BEARING CHAMFER CONTOURS.

SAE values your input. To provide feedback on this Technical Report, please visit <http://www.sae.org/technical/standards/AS24461C>



CUSTODIAN: ACBG

PROCUREMENT SPECIFICATION: AS39901



AEROSPACE STANDARD

(R) BEARING, ROLLER, NEEDLE, SINGLE ROW, HEAVY DUTY, TYPE I, ANTIFRICTION, INCH

AS24461
SHEET 1 OF 3

REV.
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TABLE 2 - TOLERANCE LIMITS

Ød BASIC BORE		ALLOWABLE DEVIATION FROM d OF SINGLE MEAN DIA., d _{mp}		ALLOWABLE DEVIATION FROM OVERALL WIDTH B		ALLOWABLE DEVIATION FROM WASHER OUTSIDE DIA. d ₁		ALLOWABLE DEVIATION FROM LUBRICATION GROOVE WIDTH, B ₁	
OVER	INCL	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW
.1250	3.0000	+0	-.0007	+0	-.005	+.010	-.010	+0	-.062
3.0000	4.0000	+0	-.0008	+0	-.005	+.010	-.010	+0	-.062
4.0000	5.0000	+0	-.0010	+0	-.005	+.010	-.010	+0	-.062

Ø D BASIC OUTSIDE DIA.		ALLOWABLE DEVIATION FROM D OF SINGLE MEAN DIA., D _{mp}		ALLOWABLE DEVIATION FROM OUTER RING WIDTH C		ALLOWABLE DEVIATION FROM LUBRICATION GROOVE WIDTH, C ₁	
OVER	INCL	HIGH	LOW	HIGH	LOW	HIGH	LOW
.5000	1.7500	+0	-.0005	+0	-.005	+.031	-0.031
1.7500	3.0000	+0	-.0006	+0	-.005	+.031	-0.031
3.0000	4.6250	+0	-.0008	+0	-.005	+.031	-0.031
4.6250	5.8750	+0	-.0010	+0	-.005	+.031	-0.031

TABLE 3 - OIL HOLE DATA

BORE-DASH NO.		NUMBER OF HOLES	
OVER	INCL	INNER RING	OUTER RING
2	5	NONE	2
5	10	2	4
10	80	4	4

REQUIREMENTS:

1. MATERIAL:

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

2. HEAT TREATMENT:

- a. RINGS AND ROLLERS: HARDENED AND TEMPER TO 58 - 66 HR_C
- b. ENDWASHERS: HARDENED AND TEMPER TO 51 - 60 HR_C

3. FINISHING:

ALL EXTERNAL SURFACES ZINC-NICKEL PLATED PER AMS2417 TYPE 2 GRADE B, OR CADMIUM PLATED PER AMS-QQ-P-416, TYPE I, CLASS 2, WITH A THICKNESS OF .0003 TO .0006 INCHES. IF ZINC-NICKEL PLATING IS REQUIRED, ADD THE SUFFIX "E" TO THE MS PART NUMBER.

4. LUBRICATION:

MIL-PRF-81322 OR MIL-PRF-23827 TYPE 1. ALL BEARINGS SHALL BE PACKED 80 TO 100% FULL WITH GREASE QUALIFIED TO MIL-PRF-81322 OR MIL-PRF-23827 TYPE 1. IF MIL-PRF-23827 TYPE 1 GREASE IS REQUIRED, ADD THE SUFFIX "G" TO THE MS PART NUMBER.

	AEROSPACE STANDARD	AS24461 SHEET 2 OF 3	REV. C
	(R) BEARING, ROLLER, NEEDLE, SINGLE ROW, HEAVY DUTY, TYPE I, ANTIFRICTION, INCH		