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AS24461

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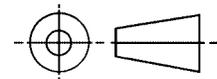
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THIRD ANGLE PROJECTION



ISSUED 1998-04 REVISED 1999-12

PREPARED BY AIRFRAME CONTROL BEARINGS GROUP



AEROSPACE STANDARD

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

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SHEET 1 OF 5

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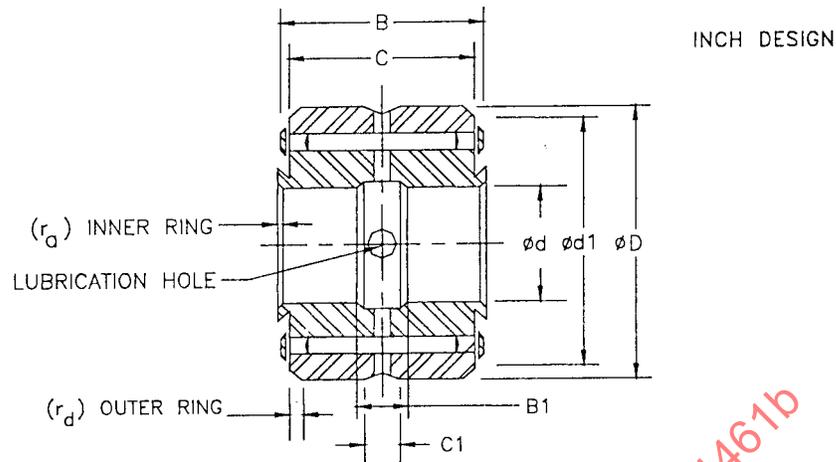


TABLE I

Dimensions in inches

Dash No.	ød Bore	øD Outer Ring Outer Dia.	øB Overall Width	C Outer Ring Width	ød ₁ Washer Outside Dia.	B ₁ Lubrication Groove Width	C ₁ Lubrication Groove Width	R _a 1/ Fillet	Total Radial Internal Clearance Max.	Clamp-Ing Dia. Min.	Limits Load Rating lbf	Mass (approx) ib
								Max.				
-3	0.1900	0.6875	0.312	0.218	0.625	None	0.062	0.022	0.0017	0.438	1800	0.028
-4	0.2500	0.7500	0.375	0.281	0.687	None	0.093	0.022	0.0017	0.516	2870	0.040
-5	0.3125	0.8125	0.437	0.344	0.750	None	0.093	0.022	0.0017	0.578	4080	0.057
-6	0.3750	0.8750	0.562	0.469	0.812	0.188	0.125	0.022	0.0018	0.641	6330	0.075
-7	0.4375	0.9375	0.625	0.531	0.875	0.188	0.125	0.032	0.0018	0.703	8000	0.097
-8	0.5000	1.1250	0.750	0.781	1.031	0.188	0.125	0.032	0.0018	0.844	11600	0.165
-9	0.5625	1.1875	0.875	0.906	1.094	0.188	0.156	0.032	0.0019	0.891	15000	0.207
-10	0.6250	1.2500	1.000	1.000	1.156	0.250	0.156	0.032	0.0019	0.953	18900	0.252
-12	0.7500	1.3750	1.125	1.125	1.281	0.250	0.156	0.032	0.0019	1.078	23900	0.336
-14	0.8750	1.6250	1.250	1.125	1.500	0.375	0.156	0.032	0.0022	1.250	30500	0.423
-16	1.0000	1.7500	1.250	1.049	1.625	0.375	0.156	0.032	0.0026	1.375	33900	0.51
-20	1.2500	2.0000	1.250	1.049	1.906	0.375	0.156	0.032	0.0026	1.625	37900	0.60
-24	1.5000	2.2500	1.250	1.049	2.156	0.375	0.156	0.032	0.0026	1.875	44200	0.71
-28	1.7500	2.5000	1.250	1.049	2.406	0.375	0.156	0.032	0.0027	2.125	50500	0.78
-32	2.0000	2.7500	1.250	1.049	2.656	0.375	0.156	0.032	0.0028	2.375	56800	0.88
-36	2.2500	3.0000	1.250	1.049	2.906	0.375	0.156	0.032	0.0032	2.625	3100	0.98
-40	2.5000	3.2500	1.250	1.049	3.156	0.375	0.156	0.032	0.0037	2.875	69400	1.06
-44	2.7500	3.5000	1.250	1.049	3.406	0.375	0.156	0.032	0.0039	3.125	75700	1.15
-48	3.0000	3.7500	1.250	1.049	3.656	0.375	0.156	0.032	0.0039	3.375	82000	1.24
-52	3.2500	4.0000	1.250	1.049	3.906	0.375	0.156	0.032	0.0039	3.641	88300	1.34
-56	3.7500	4.3750	1.250	1.049	4.219	0.375	0.156	0.044	0.0041	3.969	96700	1.73
-60	3.7500	4.6250	1.250	1.049	4.469	0.375	0.156	0.044	0.0041	4.218	103000	1.84
-64	4.0000	4.8750	1.250	1.049	4.719	0.375	0.156	0.044	0.0045	4.469	109000	1.99
-80	5.0000	5.8750	1.250	1.049	5.688	0.375	0.156	0.044	0.0045	5.438	135000	2.75

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TABLE II

Dimensions in Millimeters

Dash No.	Ød Bore	ØD Outer Ring Outer Dia.	ØB Overall Width	C Outer Ring Width	Ød ₁ Washer Outside Dia.	B ₁ Lubrication Groove Width	C ₁ Lubrication Groove Width	R _s 1/ Fillet	Total Radial Internal Clearance Max.	Clamp- ing Dia. Min.	Limits Load Rating lbf	Mass (approx) ib
								Max.				
-3	4.826	17.462	7.92	5.54	15.88	None	1.52	0.6	0.043	11.13	8700	0.013
-4	6.350	19.050	9.52	7.14	17.45	None	2.36	0.6	0.043	13.11	12700	0.018
-5	7.935	20.638	11.10	8.74	19.05	None	3.18	0.6	0.043	14.68	18100	0.026
-6	9.525	22.225	14.27	11.91	20.62	4.78	3.18	0.6	0.046	16.28	28100	0.034
-7	11.112	23.812	15.88	13.49	22.22	4.78	3.18	0.8	0.046	17.86	35600	0.044
-8	12.700	28.575	19.05	16.66	26.19	4.78	3.96	0.8	0.046	21.44	51600	0.075
-9	14.288	30.162	22.22	19.84	27.79	6.35	3.96	0.8	0.048	22.63	66700	0.094
-10	15.875	31.750	25.40	23.01	29.36	6.35	3.96	0.8	0.048	24.21	84000	0.115
-12	19.050	34.925	28.58	25.40	32.54	9.52	3.96	0.8	0.048	27.38	106000	0.153
-14	22.225	41.275	31.75	28.57	38.10	9.52	3.96	0.8	0.056	31.75	136000	0.192
-16	25.400	44.450	31.75	26.64	41.28	9.52	3.96	0.8	0.066	34.92	151000	0.23
-20	31.750	50.800	31.75	26.64	48.41	9.52	3.96	0.8	0.066	41.28	169000	0.27
-24	38.100	57.150	31.75	26.64	54.76	9.52	3.96	0.8	0.066	47.62	197000	0.32
-28	44.450	63.500	31.75	26.64	61.11	9.52	3.96	0.8	0.069	53.98	225000	0.35
-32	50.800	69.850	31.75	26.64	67.46	9.52	3.96	0.8	0.071	60.32	253000	0.40
-36	57.150	76.200	31.75	26.64	73.81	9.52	3.96	0.8	0.081	66.66	280000	0.45
-40	63.500	82.550	31.75	26.64	80.16	9.52	3.96	0.8	0.094	73.02	309000	0.48
-44	68.850	88.900	31.75	26.64	86.51	9.52	3.96	0.8	0.099	79.38	337000	0.52
-48	76.200	95.250	31.75	26.64	92.86	9.52	3.96	0.8	0.099	85.72	365000	0.56
-52	82.550	101.600	31.75	26.64	99.21	9.52	3.96	0.8	0.099	92.48	393000	0.61
-56	88.900	111.125	31.75	26.64	107.16	9.52	3.96	1.1	0.104	100.81	430000	0.79
-60	92.250	117.475	31.75	26.64	113.51	9.52	3.96	1.1	0.104	107.14	458000	0.84
-64	101.600	123.825	31.75	26.64	119.86	9.52	3.96	1.1	0.114	113.51	487000	0.90
-80	127.000	149.225	31.75	26.52	144.45	9.52	3.96	1.1	0.114	138.10	600000	1.25

1/ The chamfer on bearings must clear the maximum fillet radius given in the table. This specification does not control bearing chamfer contours.

TABLE III - 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. dl		Allowable Deviation From Lubrication Groove Width, B1	
Over	Incl	High	Low	High	Low	High	Low	High	Low
0.1250	3.0000	+0	-0.0007	+0	-0.005	+0.010	-0.010	+0	-0.062
3.0000	4.0000	+0	-0.0008	+0	-0.005	+0.010	-0.010	+0	-0.062
4.0000	5.0000	+0	0.0010	+0	-0.005	+0.010	-0.010	+0	-0.062

D Basic Outside Dia.		Allowable Deviation From D of Single Mean Dia., D _{ap}		Allowable Deviation From outside Ring Width C		Allowable Deviation From Lubrication Groove Width, C1	
Over	Incl	High	Low	High	Low	High	Low
0.5000	1.7500	+0	-0.0005	+0	-0.005	+0.031	-0.031
1.7500	3.0000	+0	-0.0006	+0	-0.005	+0.031	-0.031
3.0000	4.6250	+0	-0.0008	+0	-0.005	+0.031	-0.031
4.6250	5.8750	+0	-0.0010	+0	-0.005	+0.031	-0.031

TABLE IV

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. dl		Allowable Deviation From Lubrication Groove Width, B1	
Over	Incl	High	Low	High	Low	High	Low	High	Low
3.18	76.20	+0	-0.0007	+0	-0.005	+0.010	-0.010	+0	-1.60
76.20	101.60	+0	-0.0008	+0	-0.005	+0.010	-0.010	+0	-1.60
101.60	127.0	+0	0.0010	+0	-0.005	+0.010	-0.010	+0	-1.60

D Basic Outside Dia.		Allowable Deviation From D of Single Mean Dia., D_{ap}		Allowable Deviation From outside Ring Width C		Allowable Deviation From Lubrication Groove Width, C1	
Over	Incl	High	Low	High	Low	High	Low
0.5000	1.7500	+0	-0.0005	+0	-0.005	+0.031	-0.031
1.7500	3.0000	+0	-0.0006	+0	-0.005	+0.031	-0.031
3.0000	4.6250	+0	-0.0008	+0	-0.005	+0.031	-0.031
4.6250	5.8750	+0	-0.0010	+0	-0.005	+0.031	-0.031

TABLE II - 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:

- MATERIAL: STEEL, MIL-S-8690, QQ-S-624, QQ-S-631, QQ-S-700, FED STD NO. 66.
AISI/SAE STEEL NO. 50100, 51100, 52100
- PLATING: ZINC-NICKEL IN ACCORDANCE WITH AMS 2417 TYPE 2, OR CADMIUM PLATED IN ACCORDANCE WITH QQ-P-416, TYPE I, CLASS 2, TO A THICKNESS OF .0003 INCHES, TO .0006 INCHES.
- MACHINE FINISH: ANSI/ASME B46.1. SEE PROCUREMENT SPECIFICATION.
- LUBRICATION: GREASE CONFORMING TO MIL-G-81322 OR MIL-C-23827 AT SUPPLIERS OPTION UNLESS EITHER SPECIFIED ON ORDER.
- THE LIMIT LOAD RATING LISTED 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.
- REMOVE ALL BURRS AND SHARP CORNERS.
- DIMENSIONS TO MET AFTER PLATING.