Form Approved
OMB No. 0704-0188

INCH DESIGN

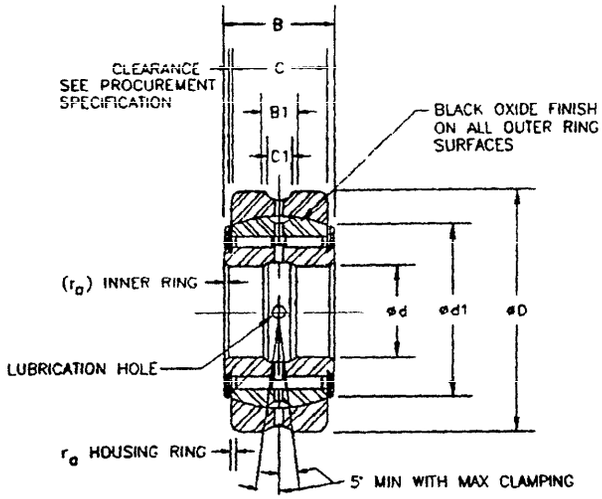

TABLE I

DIMENSIONS IN INCHES

Dash No.	ød Bore	øD Housing Ring Outside Dia	D Overall Width	C Outer Ring Width	ød1 Washer Outside Dia	B1 Lubrication Groove Width	C1 Lubrication Groove Width	r_a 1/ Fillet Max	Total Radial Clearance Max.	d_a Clamping Diameter Max	d_a Clamping Diameter Min	2/ Limit Load Rating lbf	Mass (Approx) lbf	Housing Size Gage +0.0000 −0.0001 Low	Housing Size Gage +0.0000 −0.0001 High
−6	0.3750	1.1875	0.562	0.469	0.812	0.188	0.125	0.022	0.0030	0.781	0.641	4530	0.130	1.1867	1.1872
−7	0.4375	1.3125	0.625	0.531	0.875	0.188	0.125	0.032	0.0031	0.844	0.703	5870	0.174	1.3116	1.3122
−8	0.5000	1.5000	0.750	0.656	1.031	0.188	0.125	0.032	0.0031	1.000	0.844	8670	0.293	1.4991	1.4997
−9	0.5625	1.6875	0.875	0.781	1.093	0.188	0.156	0.032	0.0031	1.062	0.891	11800	0.42	1.6866	1.6872
−10	0.6250	1.7500	1.000	0.906	1.156	0.250	0.156	0.032	0.0032	1.094	0.953	15500	0.52	1.7491	1.7497
−12	0.7500	1.8750	1.125	1.000	1.281	0.250	0.156	0.032	0.0034	1.156	1.070	20000	0.63	1.8741	1.8747
−14	0.8750	2.1250	1.250	1.125	1.500	0.375	0.156	0.032	0.0037	1.375	1.250	25800	0.87	2.1238	2.1246
−16	1.0000	2.2500	1.250	1.125	1.625	0.375	0.156	0.032	0.0041	1.500	1.375	28700	0.96	2.2488	2.2496
−20	1.2500	2.5000	1.250	1.049	1.906	0.375	0.156	0.032	0.0041	1.781	1.625	31400	1.07	2.4988	2.4996
−24	1.5000	2.7500	1.250	1.049	2.156	0.375	0.156	0.032	0.0041	2.062	1.875	36600	1.23	2.7488	2.7496
−32	2.0000	3.2500	1.250	1.049	2.656	0.375	0.156	0.032	0.0045	2.593	2.375	47100	1.49	3.2496	3.2496
−40	2.5000	3.7500	1.250	1.049	3.154	0.375	0.156	0.032	0.0046	3.062	2.875	57500	1.78	3.7485	3.7495
−48	3.0000	4.2500	1.250	1.049	3.656	0.375	0.156	0.032	0.0055	3.562	3.375	67900	2.06	4.2485	4.2495
−56	3.5000	4.8750	1.250	1.049	4.219	0.375	0.156	0.044	0.0057	4.141	3.969	80100	2.65	4.8735	4.8745

TABLE II

DIMENSIONS IN MILLIMETERS

Dash No.	ød Bore	øD Housing Ring Outside Dia	D Overall Width	C Outer Ring Width	ød1 Washer Outside Dia	B1 Lubrication Groove Width	C1 Lubrication Groove Width	r_a 1/ Fillet Max	Total Radial Clearance Max.	d_a Clamping Diameter Max	d_a Clamping Diameter Min	2/ Limit Load Rating N	Mass (Approx) Kg	Housing Size Gage +0.0000 −0.0003 Low	Housing Size Gage +0.0000 −0.0003 High
−6	9.525	30.162	14.27	11.91	20.62	4.78	3.18	0.6	0.076	19.84	16.28	20100	0.059	30.142	30.155
−7	11.112	33.338	15.88	13.49	22.22	4.78	3.18	0.8	0.079	21.44	17.86	26100	0.079	33.315	33.330
−8	12.700	38.100	19.05	16.66	26.19	4.78	3.18	0.8	0.079	25.40	21.44	38500	0.133	38.079	38.092
−9	14.288	42.862	22.22	19.04	27.76	4.78	3.96	0.8	0.079	26.97	22.63	52300	0.19	42.840	42.855
−10	15.875	44.450	25.40	23.01	29.36	6.35	3.96	0.8	0.081	27.79	24.21	88700	0.24	44.427	44.442
−12	19.050	47.625	28.58	25.40	32.54	6.35	3.96	0.8	0.086	29.36	27.38	88700	0.29	47.602	47.617
−44	22.225	53.975	31.75	28.58	38.10	9.52	3.96	0.8	0.094	34.92	31.75	115000	0.39	53.945	53.965
−46	25.400	57.150	31.75	28.58	41.28	9.52	3.96	0.8	0.104	38.10	34.92	127000	0.44	57.120	57.140
−20	31.750	63.500	31.75	26.64	48.41	9.52	3.96	0.8	0.104	45.24	41.28	140000	0.49	63.470	63.490
−24	38.100	69.850	31.75	26.64	54.76	9.52	3.96	0.8	0.104	52.37	47.62	163000	0.56	69.820	69.840
−32	50.800	82.550	31.75	26.64	67.46	9.52	3.96	0.8	0.114	65.86	60.32	209000	0.68	82.512	82.540
−40	63.500	95.250	31.75	26.64	80.16	9.52	3.96	0.8	0.117	77.77	73.02	255000	0.81	95.212	95.237
−48	76.200	107.950	31.75	26.64	92.86	9.52	3.96	0.8	0.142	90.47	85.72	302000	0.94	107.912	107.937
−56	88.900	123.825	31.75	26.64	107.16	9.52	3.96	1.1	0.145	105.18	100.81	357000	1.20	123.787	123.812

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.

(H) Denotes Change(s)

INCH-POUND

PREPARING ACTIVITY: NAVY-AS
CUSTODIANS: ARMY- AT NAVY- AS
AIR FORCE- 99 DLA-
REVIEW: AF-84 DLA-IS
USER:
PROJECT NUMBER: 3110-0858

MILITARY SPECIFICATION SHEET

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

SPECIFICATION SHEET NUMBER
MS24464 05 DEC 94 REV H

SUPERSEDING
MS24464G 17 JUN 77

AMSC- N/A FSC 3110

DISTRIBUTION STATEMENT
A Approved for public release; distribution is unlimited.

DD Form 672, MAY 88 PREVIOUS EDITIONS ARE OBSOLETE

Form Approved
OMB No 0704-0188

TABLE III TOLERANCE LIMITS

DIMENSIONS IN INCHES

ød Basic Bore		Allowable Deviation from d of Single Mean DIA, d		Allowable Deviation From Over-all Width, B		Allowable Deviation From Washer Outside Dia., d_1		Allowable Deviation From Lubrication Groove Width, B_1		ØD Basic Outer Ring Outside Dia.		Allowable Deviation From D of Single Mean Dia., D		Allowable Deviation From Outer Ring Width, C		Allowable Deviation From Lubrication Groove Width, $C1_1$	
OVER	INCL	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	OVER	INCL	HIGH	LOW	HIGH	LOW	HIGH	LOW
0.3125	3.0000	+0	-0.0007	+0	-0.005	+0.010	-0.010	+0.031	-0.031	1.0625	1.8750	+0	-0.0005	+0	-0.005	+0	-0.062
3.0000	3.5000	+0	-0.0006	+0	-0.005	+0.010	-0.010	+0.031	-0.031	1.8750	2.7500	+0	-0.0006	+0	-0.005	+0	-0.062
										2.7500	4.2500	+0	-0.0008	+0	-0.005	+0	-0.062
										4.2500	4.8750	+0	-0.0010	+0	-0.005	+0	-0.062

TABLE IV. TOLERANCING LIMITS

DIMENSIONS IN MILLIMETERS

ød Basic Bore		Allowable Deviation From d of Single Mean Dia, d		Allowable Deviation From Over-all Width E		Allowable Deviation From Washer Outside Dia., d_1		Allowable Deviation From Lubrication Groove Width, B1		ØD Basic Outer Ring Outside Dia.		Allowable Deviation From D of Single Mean Dia., D		Allowable Deviation From Outer Ring Width C		Allowable Deviation From Lubrication Groove Width, C_1	
OVER	INCL	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	OVER	INCL	HIGH	LOW	HIGH	LOW	HIGH	LOW
7.938	76.200	+0	-.018	+0	-.13	40.25	-.25	+.5	-.8	26.968	47.625	+0	-.013	+0	-.13	+0	-1.6
76.200	88.900	+0	-.020	+0	-.13	40.25	-.25	+.5	-.8	47.623	69.850	+0	-.015	+0	-.13	+0	-1.6
										69.850	107.950	+0	-.020	+0	-.13	+0	-1.6
										107.950	123.825	+0	-.025	+0	-.13	+0	-1.6

TABLE V. 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

REQUIREMENTS:

(H) 1 MATERIAL: Steel, MIL-S-8690, ASTM A304, ASTM A576, ASTM A675, QQ-S-700, FED STD. NO.66, AISI/SAE Steel No 50100, 51100, 52100

(H) 2 PLATING: Zinc-Nickel plate in accordance with AMS 2417, Type 2, or cadmium plated in accordance with QQ-P-416, type II, class 2, with a thickness of .0003 inches, to .0006 inches.

(H) 3 MACHINE FINISH: ANSI/ASME B46:1, See Procurement Specification.

4. LUBRICATION: Grease conforming to MIL-G-81322.

5. Dimensions to be met after plating.

6. Remove all burrs and sharp edges.

NOTES:

1. This standard takes precedence over any other document referenced herein.

2. Referenced documents are the issue in effect at the date of invitation for bid.

PREPARING ACTIVITY: NAVY-AS
CUSTODIANS: ARMY- AT NAVY- AS
AIR FORCE- 99 DLA-
REVIEW: AF-84 DLA-IS
USER:
PROJECT NUMBER: 3110-0858

MILITARY SPECIFICATION SHEET

TITLE

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

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