INCH - POUND

MS24466K
21 September 1998
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MILITARY SPECIFICATION SHEET

BEARING, ROLLER, NEEDLE-DOUBLE ROW, HEAVY DUTY, TRACK ROLLER, TYPE VI, ANTIFRICTION, INCH

This specification sheet is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation: MIL-B-3990.

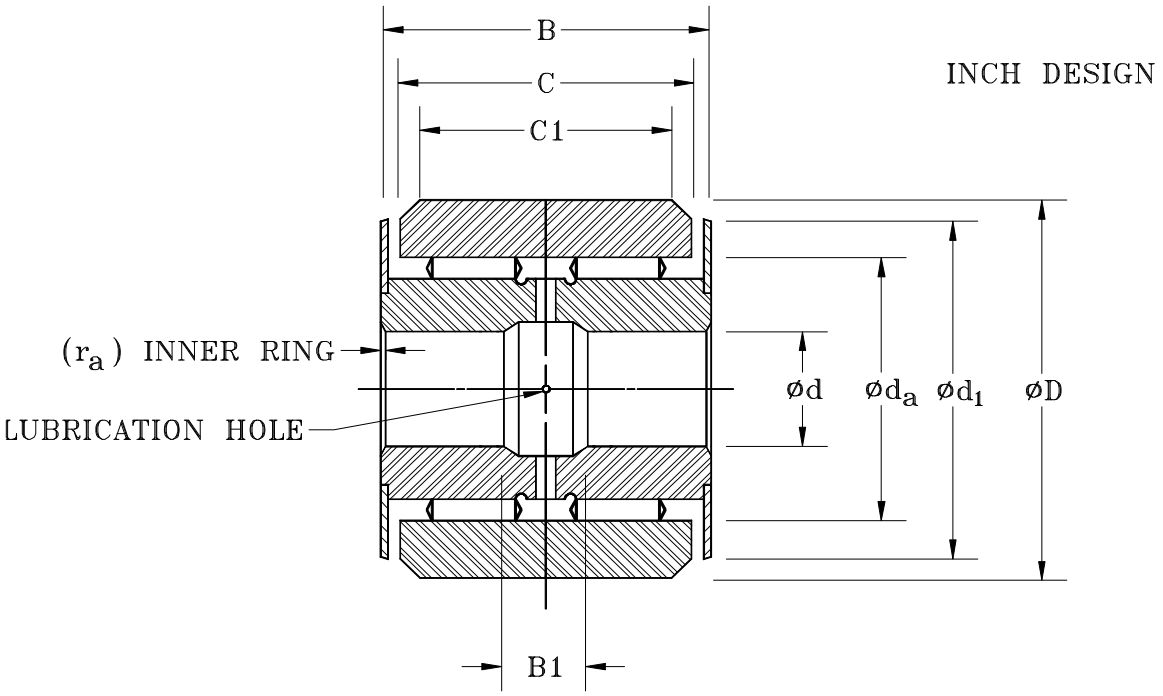

FIGURE 1. Bearing section.

INACTIVE FOR NEW DESIGN…USE MS21439

TABLE I. Bearing properties.

DIMENSIONS IN INCHES

DASH NO.	∅d BORE	∅ D OUTER RING OUTSIDE DIA.	B OVER ALL WIDTH	C OUTER RING WIDTH	C_1 TRACK CONT-ACT WIDTH	∅ d_1 WASHER OUTSIDE DIA.	B_1 LUBRI-CATION GROOVE WIDTH	r_a 1/ FILLET MAX	TOTAL RADIAL CLEAR-ANCE MAX	∅ d_a CLAMP-ING DIA. MIN	2/ LIMIT LOAD RATING LBF	3/ LOAD RATING AS A TRACK ROLLER LBF	TRACK CAP-ACITY 40HRC LBF	MASS (APPROX) LB
-6	0.3750	1.1250	1.000	0.875	0.750	1.000	0.188	0.022	0.0014	0.672	7130	5370	2600	0.228
-8	0.5000	1.3750	1.250	1.125	1.000	1.250	0.250	0.032	0.0014	0.891	12500	9370	4250	0.416
-10	0.6250	1.6250	1.500	1.375	1.125	1.500	0.375	0.032	0.0014	1.109	19900	15000	5650	0.693
-12	0.7500	1.8750	1.750	1.625	1.375	1.750	0.375	0.032	0.0014	1.281	28500	21400	7950	1.08
-14	0.8750	2.1250	2.000	1.875	1.625	2.000	0.375	0.032	0.0015	1.469	38500	28900	10650	1.55
-16	1.0000	2.3750	2.250	2.049	1.794	2.215	0.375	0.032	0.0015	1.578	44900	33600	13200	2.20
-20	1.2500	2.7500	2.500	2.299	2.044	2.500	0.375	0.032	0.0015	1.844	59500	44600	17300	3.10
-24	1.5000	3.0000	2.750	2.549	2.294	2.750	0.375	0.032	0.0015	1. 984	71300	35600	21200	4.12
-28	1.7500	3.4375	3.000	2.792	2.544	3.187	0.375	0.032	0.0015	2.281	92000	69000	27000	5.80
-32	2.0000	3.8750	3.000	2.799	2.544	3.625	0.375	0.032	0.0015	2.562	102000	76600	30400	7.00

1/ The chamfer on the bearing shall clear the maximum fillet radius given in the table. However, this specification does not control bearing chamfer contours.

2/ 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. The ultimate or static fracture load rating shall be not less than 1.5 times the limit load rating.

3/ The load rating as a track roller is the load the bearing will carry as a track roller for a L-10 life of 20,000 revolutions.

TABLE II. Bearing properties.

DIMENSIONS IN MILLIMETERS

DASH NO.	∅d BORE	∅ D OUTER RING OUTSIDE DIA.	B OVER ALL WIDTH	C OUTER RING WIDTH	C_1 TRACK CONTACT WIDTH	∅ d_1 WASHER OUTSIDE DIA.	B_1 LUBRI-CATION GROOVE WIDTH	r_a 1/ FILLET MAX	TOTAL RADIAL CLEAR-ANCE MAX	∅ d_a CLAMP-ING DIA. MIN	2/ LIMIT LOAD RATING M	3/ LOAD RATING AS A TRACK ROLLER M	TRACK CAP-ACITY 40HRC M	MASS (APPROX) KG
-6	9.325	28.575	25.40	22.22	19.05	25.40	4.78	0.6	0.036	17.07	31800	23900	11600	0.104
-8	12.700	34.925	31.75	28.58	25.40	31.75	6.35	0.8	0.036	22.63	55500	41700	18900	0.189
-10	15.875	41.275	38.10	34.92	28.58	38.10	9.51	0.8	0.036	28.17	88700	66700	25100	0.315
-12	19.050	47.625	44.45	41.28	34.92	44.45	9.52	0.8	0.036	32.54	127000	95200	35400	0.49
-14	22.250	53.975	50.80	47.62	41.28	50.80	9.52	0.8	0.038	37.31	171000	129000	47400	0.70
-16	25.400	60.325	57.15	52.04	45.57	53.98	9.52	0.8	0.038	40.08	199000	149000	58700	1.00
-20	31.750	69.850	63.50	58.39	51.92	63.50	9.52	0.8	0.038	46.84	265000	198000	77000	1.41
-24	38.100	76.200	69.85	64.74	58.27	69.85	9.52	0.8	0.038	50.39	318000	238000	94300	1.87
-28	44.450	87.312	76.20	71.09	64.62	80.95	9.52	0.8	0.038	57.94	409000	307000	120000	2.64
-32	50.800	98.425	76.20	71.09	64.62	92.08	9.52	0.8	0.038	65.07	453000	341000	135000	3.18

1/ The chamfer on the bearing shall clear the maximum fillet radius given in the table. However, this specification does not control bearing chamfer contours.

2/ 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. The ultimate or static fracture load rating shall be not less than 1.5 times the limit load rating.

3/ The load rating as a track roller is the load the bearing will carry as a track roller for a L-10 life of 20,000 revolutions.

TABLE III. Tolerance limits.

DIMENSIONS IN INCHES

∅d 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 LUBRI-CATION GROOVE WIDTH B_1	
OVER	INCL	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW
0.2500	2.0000	+0	–0.0007	+0	-0.005	+0.010	-0.010	+0	–0.062

∅ D BASIC OUTER RING OUTSIDE DIA		ALLOWABLE DEVIATION FROM D OF SINGLE MEAN DIA, D		ALLOWABLE DEVIATION FROM OUTER RING WIDTH, C	
OVER	INCL	HIGH	LOW	HIGH	LOW
1.0000	3.8750	+0	0.0010	+0	–0.005

TABLE IV. Tolerance limits.

DIMENSIONS IN MILLIMETERS

∅d 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 LUBRI-CATION GROOVE WIDTH B_1	
OVER	INCL	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW
6.350	50.800	+0	–0.018	+0	–0.13	+0.25	–0.25	+0	–1.06

∅ D BASIC OUTER RING OUTSIDE DIA		ALLOWABLE DEVIATION FROM D OF SINGLE MEAN DIA, D		ALLOWABLE DEVIATION FROM OUTER RING WIDTH, C	
OVER	INCL	HIGH	LOW	HIGH	LOW
25.400	94.425	+0	-0.025	+0	–0.13

TABLE V. Oil hole data.

BORE-DASH NO.		NUMBER OF HOLES
OVER	INCL	INNER RING
–3	–32	4

REQUIREMENTS:

1. MATERIAL: SAE-AMS6274; ASTM-A304, ASTM-A576, ASTM-A675; QQ-S-700; FED-STD-66, Steel 50100, 51100, and 52100.

2. PLATING: OD and sides of outer ring, chromium plate, QQ-C-320, Class 2. Thickness: .013-.025 (.0005-.0010 inches). Other surfaces, excluding inner ring bore, zinc-nickel plating per SAE-AMS 2417, Type 2, or cadmium plating in accordance with QQ-P-416, Type 1, Class 2, with a thickness of .0003 to .0006 inches.

3. MACHINE FINISH: ASME-B46.1, see procurement specification.

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

5. Dimensions to be met after plating, remove all burrs and sharp edges.

CONCLUDING MATERIAL

Custodians:
Army – AT
Navy - AS
Air Force – 99

Review Activities:
Air Force - 84
DLA - GS

Preparing activity:
Navy – AS

(Project 3110-1138)