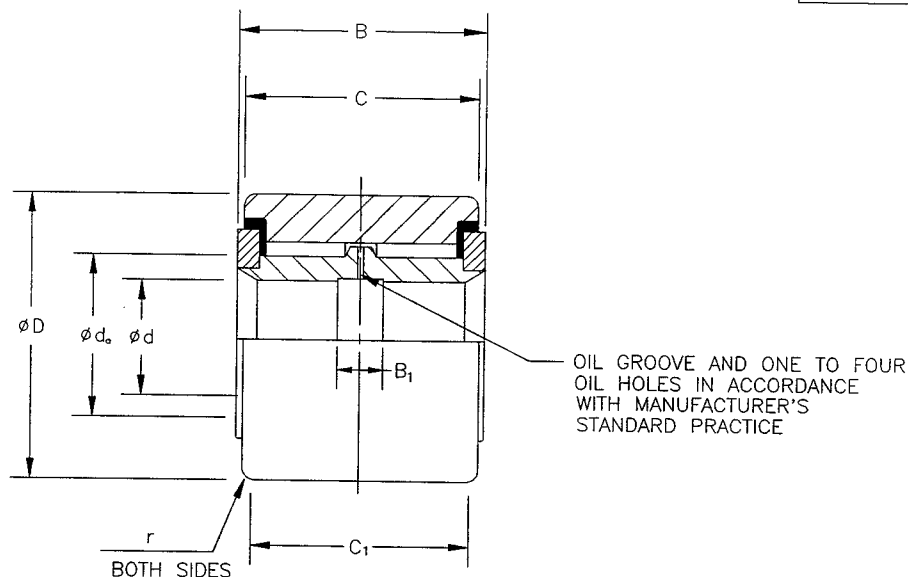


THE REQUIREMENTS FOR ACQUIRING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DODISS SPECIFIED IN THE SOLICITATION: MIL-B-3990

Form Approved
OMB No. 0704-0188



(B) TABLE I. DIMENSIONS IN INCHES

DASH NO.	ϕd BORE	ϕD OUTSIDE DIA	C OUTER RING WIDTH	B OVERALL WIDTH	ϕd_o CLAMPING DIA MIN	r RAD MIN.	B ₁ LUBRICATION GROOVE WIDTH	C ₁ MIN TRACK CONTACT WIDTH	CAPACITY AS A TRACK ROLLER LBS.	TRACK CAPACITY 40 HRC LBS.	LIMIT LOAD LBS.	MASS (APPROX.) LBS.
-106	.3750	1.1250	.940	1.000	.672	.022	.188	.750	5370	2600	7130	.24
-108	.5000	1.3750	1.190	1.250	.891	.032	.250	1.000	9370	4250	12500	.44
-110	.6250	1.6250	1.440	1.500	1.109	.032	.375	1.125	15000	5650	19900	.73
-112	.7500	1.8750	1.690	1.750	1.281	.032	.375	1.375	21400	7950	28500	1.13
-114	.8750	2.1250	1.940	2.000	1.469	.032	.375	1.625	28900	10650	38500	1.63
-116	1.0000	2.3750	2.190	2.250	1.578	.032	.375	1.797	33600	13200	44900	2.31
-120	1.2500	2.7500	2.440	2.500	1.844	.032	.375	2.047	44600	17300	59500	3.26
-124	1.5000	3.0000	2.690	2.750	1.984	.032	.375	2.297	53600	21200	71300	4.33
-128	1.7500	3.4375	2.940	3.000	2.281	.032	.375	2.547	69000	27000	92000	6.09
-132	2.0000	3.8750	2.940	3.000	2.562	.032	.375	2.547	76600	30400	102000	7.35

(B) TABLE II. TOLERANCE VALUE

ϕd BASIC BORE		ALLOWABLE DEVIATION FROM d OF SINGLE MEAN DIAMETER d_{mp}		ALLOWABLE DEVIATION FROM OVERALL WIDTH B		ALLOWABLE DEVIATION FROM LUBRICATION GROOVE WIDTH B ₁		ϕD BASIC OUTER RING OUTSIDE DIA		ALLOWABLE DEVIATION FROM D OF SINGLE MEAN DIAMETER D_{mp}		ALLOWABLE DEVIATION FROM OUTER RING WIDTH C	
OVER	INCL	HIGH	LOW	HIGH	LOW	HIGH	LOW	OVER	INCL	HIGH	LOW	HIGH	LOW
.2500	2.0000	.0000	-.0007	.0000	-.010	.0000	-.062	1.0000	3.8750	+.001	-.001	.0000	-.005

(B) DENOTES CHANGES

INCH-POUND

PREPARING ACTIVITY: NAVY-AS	MILITARY SPECIFICATION SHEET	SPECIFICATION SHEET NUMBER
CUSTODIANS: ARMY- AT NAVY-AS	TITLE	MS21439 15 NOV 94 REV B
AIR FORCE- 99 DLA-	BEARING, ROLLER, NEEDLE, DOUBLE ROW, HEAVY DUTY, TRACK ROLLER, SEALED, TYPE VI, INCH	SUPERSEDING
REVIEW: ARMY-AT AIR FORCE-11,84 DLA-IS USER:		MS21439 A 31 MAR 81
PROJECT NUMBER: 3110-0850		AMSC- N/A FSC 3110
DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.		

Page 1 of 2

DD Form 672, MAY 88

PREVIOUS EDITIONS ARE OBSOLETE

THIS SPECIFICATION IS APPROVED FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE.

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REQUIREMENTS:

1. MATERIAL:
 - (B) A. STEEL, MIL-S-8690, ASTM NO. A304, A322, A331, QQ-S-700, FED-STD-66, AISI/SAE STEEL NO. 50100, 51100, 52100, STEEL AMS 6440.
 - B. SEALS AND BACKING RINGS - ACETAL RESIN PER L-P-392 OR NYLON PER L-P-410, TYPE 6/6, WEAR RESISTANT GRADE, OR POLYESTER ELASTOMER. CONSTRUCTION OPTIONAL.
2. FINISH OR PLATING:
 - A. OUTER RING - OUTER RING CHROME PLATED PER QQ-C-320, CLASS 2. O.D. AND O.D. CORNERS .0005-.0010 INCH THICKNESS, FACES MINIMUM .0003 IN THICKNESS.
 - (B) B. INNER RING - ALL EXTERNAL SURFACES, EXCEPT THE INNER RING BORE: ZINC-NICKEL 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 TO .0006 INCHES.
 - (B) C. ENDPLATES - ALL EXPOSED SURFACES ZINC-NICKEL PLATED 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 TO .0006 INCHES.
3. LUBRICANT: MIL-G-81322 OR MIL-G-23827. ALL BEARINGS SHALL BE PREPACKED WITH GREASE CONFORMING TO MIL-G-81322 UNLESS OTHERWISE SPECIFIED. ALL BEARINGS SHALL BE FILLED 80% MINIMUM WITH GREASE. IF MIL-G-23827 IS REQUIRED, ADD THE LETTER "L" AFTER THE MS21439 DASH NUMBER. IF A RELUBRICATION GROOVE IS DESIRED, ADD THE CODE "G" AFTER THE MS21439 DASH NUMBER AND BEFORE THE LUBRICANT DESIGNATOR IF APPLICABLE. MIL-G-23827 SHALL NOT BE USED FOR OPERATIONS WHERE TEMPERATURES EXCEED 250°F.
4. MARKING: THE MARKING SHALL CONSIST OF THE MS PART NUMBER AND THE MANUFACTURER'S IDENTIFICATION IN ACCORDANCE WITH MIL-STD-130.
- (B) 5. PART NUMBER: THE MS PART NUMBER SHALL CONSIST OF THE MS NUMBER PLUS THE DASH NUMBER.
EXAMPLE: MS21439-106 L G

RELUBRICATION GROOVE
LUBRICANT DESIGNATOR
DASH NUMBER
MILITARY SPECIFICATION SHEET NUMBER
- (B) 6. PACKAGING: BEARINGS SHALL BE INDIVIDUALLY PACKAGED TO THE REQUIREMENTS OF MIL-P-197. PACKAGE MARKED WITH MANUFACTURER'S NAME OR TRADEMARK, AND DATE OF LUBRICATION BY MONTH AND YEAR.
7. DIMENSIONS: ALL DIMENSIONS ARE AFTER PLATING AND ARE IN INCHES.
8. LOAD RATING: 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 IS NOT LESS THAN 1.5 TIMES THE LIMIT LOAD RATING. THE LOAD RATING AS A TRACK ROLLER IS THE LOAD THE BEARING WILL CARRY AS A TRACK ROLLER FOR AN L-10 LIFE OF 20,000 REVOLUTIONS.
- (B) 9. RADIAL INTERNAL CLEARANCE SHALL BE .0018 MAX.
10. TEMPERATURE: BEARING OPERATING TEMPERATURE RANGE -65°F TO 350°F.

NOTES:

1. DESIGN FEATURES: FOR DESIGN FEATURE PURPOSES, THIS SPECIFICATION TAKES PRECEDENCE OVER DOCUMENTS REFERENCED HEREIN.
2. REFERENCED DOCUMENTS: REFERENCED DOCUMENTS ARE THE ISSUES IN EFFECT ON DATE OF INVITATIONS FOR BID.

PREPARING ACTIVITY: NAVY-AS CUSTODIANS: ARMY-AT NAVY-AS AIR FORCE-99 DLA- REVIEW: ARMY-AT, AIR FORCE-11,84 DLA-IS USER: PROJECT NUMBER: 3110-0850		MILITARY SPECIFICATION SHEET TITLE BEARING, ROLLER, NEEDLE, DOUBLE ROW, HEAVY DUTY, TRACK ROLLER, SEALED, TYPE VI, INCH	SPECIFICATION SHEET NUMBER MS21439 15 NOV 94 REV B SUPERSEDING MS21439 A 31 MAR 81 AMSC- N/A FSC 3110
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