

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 DOCS SPECIFIED IN THE SOLICITATION:

THIS SPECIFICATION IS APPROVED FOR USE WITHIN THE DEPARTMENT OF THE ARMY AND IS AVAILABLE FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE

Form Approved OMB No. 0704-0186											
DASH NUMBER	BORE SIZE NOM.	A ± 0.010	B + 0.0008 - 0.0003 DIA	D DIA. ± 0.010	E NOM. RAD.	F + 0.0009 - 0.0002 DIA	H ± 0.010	N + 0.015 - 0.000 (H)	O NOM. DIA.	W + 0.0009 - 0.0005 (K)	WGT LBS. APPROX.
-1	3/16	1.375	0.1900	0.791	0.300	0.430	0.328	0.005	0.276	0.437	0.07
-2	1/4	1.375	0.2500	0.934	0.500	0.625	0.436	0.005	0.340	0.583	0.16

ENGINEERING DATA							
DASH NUMBER	RADIAL STRENGTH		AXIAL STRENGTH		RADIAL LOAD RATING 10,000 COMPLETE (4) 90° CYCLES (5)		MAXIMUM STARTING TORQUE
	LIMIT LOAD LBS	FRACTURE LOAD LBS	LIMIT LOAD LBS	FRACTURE LOAD LBS	CASE I	CASE II	
-1	1600	1500	200	300	1600	1000	1
-2	1720	2600	345	520	1720	1720	1

NOTES:

- FOR DESIGN FEATURE PURPOSES, THIS STANDARD TAKES PRECEDENCE OVER ANY OTHER DOCUMENTS REFERENCED HEREIN.
- REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BID.

REQUIREMENTS:

- A RADIUS GIVING THE SAME FILLET CLEARANCE WILL BE ACCEPTABLE.
- CASE I = LOAD FIXED WITH RESPECT TO OUTER RACE. (AVERAGE LIFE RATING) CASE II = LOAD FIXED WITH RESPECT TO INNER RACE. (AVERAGE LIFE RATING)
- 10° ALLOWED MISALIGNMENT SHALL OCCUR WITHOUT INTERFERENCE BETWEEN BALL HOUSING AND SURFACES INDICATED BY DIMENSION "W".
- THESE RATINGS ARE FOR OPERATION UP TO 250° F MAX. WHEN SUBJECTED TO OPERATION ABOVE 250° F, THE RATINGS SHOULD BE REDUCED BY 20%.

- FOR DEFINITION AND APPLICATION OF DRAWING STATUS NOTES, SEE MIL-STD-882.
- RADIAL PLAY: 0.0006 - 0.0004 UNDER 5.5 POUND GAGE LOAD.
- AXIAL PLAY: 0.0006 - 0.0003 UNDER 5.5 POUND GAGE LOAD.
- MATERIAL: INNER RACE & BALLS - AISI 52100 STEEL PER MIL-S-7420; OUTER RACE & SHANK - AISI 4130 STEEL PER MIL-S-6754; OR AISI 52100 STEEL PER MIL-S-8890; SEALS - POLYTETRAFLUORETHYLENE PER AMS 3682 OR AMS 3686; SEAL RETAINERS - STEEL, CORROSION RESISTANT, AISI 301 OR AISI 430.
- HEAT TREATMENT: HEAT TREAT INNER RINGS & BALLS TO ROCKWELL "C" 60 TO 66, OUTER RING RACEWAYS TO ROCKWELL "C" 58-62; STABILIZE FOR OPERATION AT 250°F.
- LUBRICANT: MIL-G-81322 OR MIL-G-23627. ALL BEARINGS SHALL BE PREPACKED 80% FULL WITH GREASE QUALIFIED TO MIL-G-81322 UNLESS MIL-G-23627 IS REQUIRED. IF MIL-G-23627 IS REQUIRED, ADD THE SUFFIX Q TO THE MS PART NUMBER AND LIMIT BEARING OPERATION TO NOT MORE THAN 250°F.
- FINISH: ZINC PLATE PER AMS 2417, TYPE 2 TO A THICKNESS OF 0.00030 - 0.00080 INCHES.
- SURFACE ROUGHNESS: RACEWAYS AND BALLS SHALL NOT EXCEED 8 MICRO INCHES (AA). SHANK 63 MICRO INCHES (AA).
- REMOVE ALL BURRS AND SHARP EDGES.
- DIMENSIONS: IN INCHES, UNLESS OTHERWISE SPECIFIED.
- DIMENSIONS TO BE MET AFTER PLATING.
- EXAMPLE OF COMPLETE PART NO. MS21154-2; BEARING, BALL, ROD END, PRECISION, SOLID SHANK, SELF-ALIGNING, CONTACT SEAL.
- RECLAIMED MATERIALS SHALL BE REQUIRED TO THE MAXIMUM EXTENT POSSIBLE.

PREPARING ACTIVITY: AF-84 CUSTODIANS: ARMY - AV NAVY - AS AF-88 REVIEWER: ARMY - AR, AT, MI DLA-4S USER: ARMY-NE PROJECT NUMBER: 3110-0821-01 PROCUREMENT SPECIFICATION: MIL-S-8030	MILITARY SPECIFICATION SHEET TITLE BEARING, BALL, ROD END, DOUBLE ROW, PRECISION, SOLID SHANK, SELF-ALIGNING, AIRFRAME, TYPE I, -45° TO 300° F.	SPECIFICATION SHEET NUMBER MS21150 SUPERSEDING: AMSC - N/A FBC - 3110
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