

REV.
D

SAE AS21151

FEDERAL SUPPLY CLASS
3110

RATIONALE

AS21151 REV D IS A FIVE YEAR REVIEW. UPDATED SPECIFICATIONS TO CURRENT REQUIREMENTS, REFORMATTED GRAPHICS, TABLES AND NOTES, ADDED ZINC-NICKEL CODE, ADDED OPTIONAL MATERIAL FOR INNER RACE AND BALLS AND REMOVED "OR AN APPROVED EQUIVALENT" TO SEAL MATERIAL

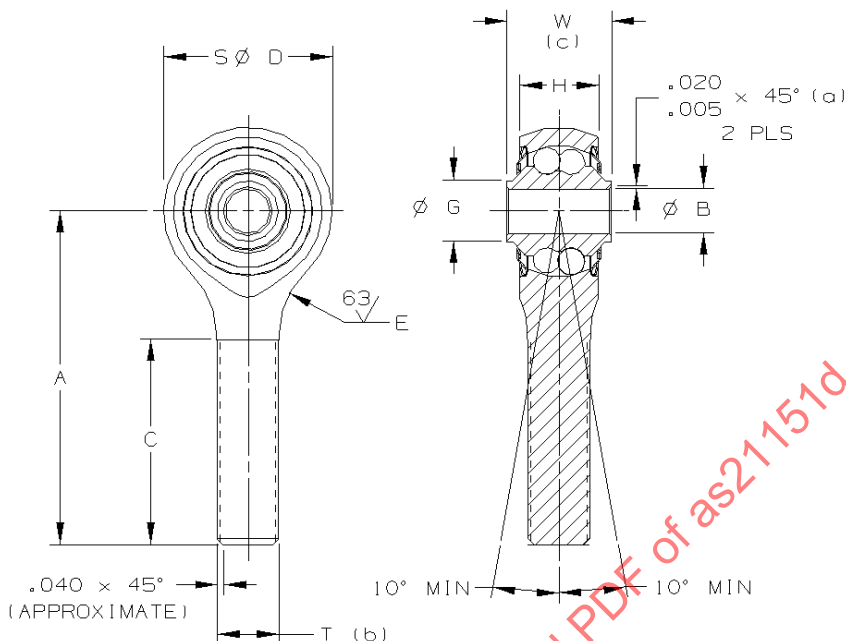


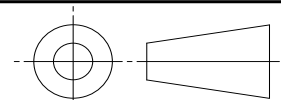
FIGURE 1

TABLE 1 - DIMENSIONS AND TOLERANCES

MS21151 DASH NUMBER (c)	BORE SIZE NOM.	A	ØB	C	ØD	E	H	N	ØG	T THREAD	W	WT LB APPROX
		±.010	+.0000 -.0003	±.031	±.010	NOM	±.010	+.015 -.000	MIN.	UNJF-3A	+.000 -.005	
-1	3/16	1.375	.1900	.750	.781	.422	.328	.005	.276	.1900-32 LH	.437	.04
-2		2.031		1.313	.969	.500	.407		.299	.1900-32 RH	.500	.05
-3		1.375		.750	.781	.390	.328		.276	.3750-24 RH	.437	
-4		1.612		.938	.781	.562	.438		.307	.3750-24 LH	.500	
-5		1.563		1.000	.781	.344	.328		.276	.2500-28 RH	.437	.05
-6	1/4	1.875	.2500	1.125	.938	.469	.438	.015	.340	.3750-24 RH	.593	.10
-7		2.438	.3125	1.563	1.250	.500	.656		.501	.4375-20 RH	.870	.24
-8	5/16	2.750	.6250	1.500	2.000	.500	.938	.015	.875	.6250-18 RH	1.125	.71
-9												
-10	5/8									.3750-24 RH		
-11										.4375-20 RH		
-12										.6250-18 RH		
-13												

SAE values your input. To provide feedback on this Technical Report, please visit <http://www.sae.org/technical/standards/AS21151D>

THIRD ANGLE PROJECTION



CUSTODIAN: SAE AIRFRAME CONTROL BEARINGS GROUP

PROCUREMENT SPECIFICATION: AS6039

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

(R) BEARING, BALL, ROD END, DOUBLE ROW, PRECISION, EXTERNAL THREAD, SELF-ALIGNING, AIRFRAME, TYPE II, -65 TO 300 °F

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TABLE 2 - ENGINEERING DATA

MS21151 DASH NUMBER (c)	RADIAL STRENGTH		AXIAL STRENGTH		RADIAL LOAD RATING 10 000 COMPLETE 90° CYCLES (e) (f)		MAXIMUM STARTING TORQUE
	LIMIT LOAD LBF	FRACTURE LOAD LBF	LIMIT LOAD LBF	FRACTURE LOAD LBF	CASE I	CASE II	IN-OZ
-1	1000	1500	200	300	1000	1000	3.0
-2							
-3	1200	1800	240	360	1200	1200	
-4	1000	1500	200	300	1000	1000	
-5							
-6							
-7							
-8	1720	2580	345	520	1720	1720	4.0
-9							
-10	2920	4375	585	880	2920	2600	6.0
-11							
-12							
-13	7090	10 600	1420	2130	6160	5340	8.0

REQUIREMENTS:

- (a) A RADIUS GIVING THE SAME FILLET CLEARANCE WILL BE ACCEPTABLE.
- (b) THREADS SHALL CONFORM TO UNJF-3A IN ACCORDANCE WITH AS8879. EXTERNAL THREADS SHALL BE FULLY FORMED BY A SINGLE ROLLING PROCESS. THREAD LENGTH SHALL BE TOTAL LENGTH "C" ALLOWING A MAXIMUM OF TWO IMPERFECT THREADS.
- (c) KEYWAY SLOT IF REQUIRED SHALL BE IN ACCORDANCE WITH NASM14198 AND SHALL BE DESIGNATED BY ADDING SUFFIX "C" TO THE DASH NUMBER (-3 THROUGH -13 ONLY).
- (d) 10° MIN. ALLOWED MISALIGNMENT IN EITHER DIRECTION SHALL OCCUR WITHOUT INTERFERENCE BETWEEN BALL HOUSING AND SURFACES INDICATED BY DIMENSION "W".
- (e) CASE I - LOAD FIXED WITH RESPECT TO OUTER RACE (AVERAGE LIFE RATING).
CASE II - LOAD FIXED WITH RESPECT TO INNER RACE (AVERAGE LIFE RATING).
- (f) THESE RATINGS ARE FOR OPERATIONS UP TO 250 °F MAXIMUM WHEN SUBJECTED TO OPERATION ABOVE 250 °F. THE RATINGS SHOULD BE REDUCED BY 20%.

NOTES:

NOTICE

THIS DOCUMENT REFERENCES A PART WHICH CONTAINS CADMIUM AS A PLATING MATERIAL. CONSULT LOCAL OFFICIALS IF YOU HAVE QUESTIONS CONCERNING CADMIUM'S USE.

- 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 INVITATION FOR BID.
- RADIAL CLEARANCE: .0000 TO .0004 INCHES UNDER 5.5 LB FULLY REVERSING GAGE LOAD.
- AXIAL CLEARANCE: .0000 TO .003 INCHES UNDER 5.5 LB FULLY REVERSING GAGE LOAD.

 An SAE International Group	AEROSPACE STANDARD	SAE AS21151 SHEET 2 OF 3	REV. D
	(R) BEARING, BALL, ROD END, DOUBLE ROW, PRECISION, EXTERNAL THREAD, SELF-ALIGNING, AIRFRAME, TYPE II, -65 TO 300 °F		