

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

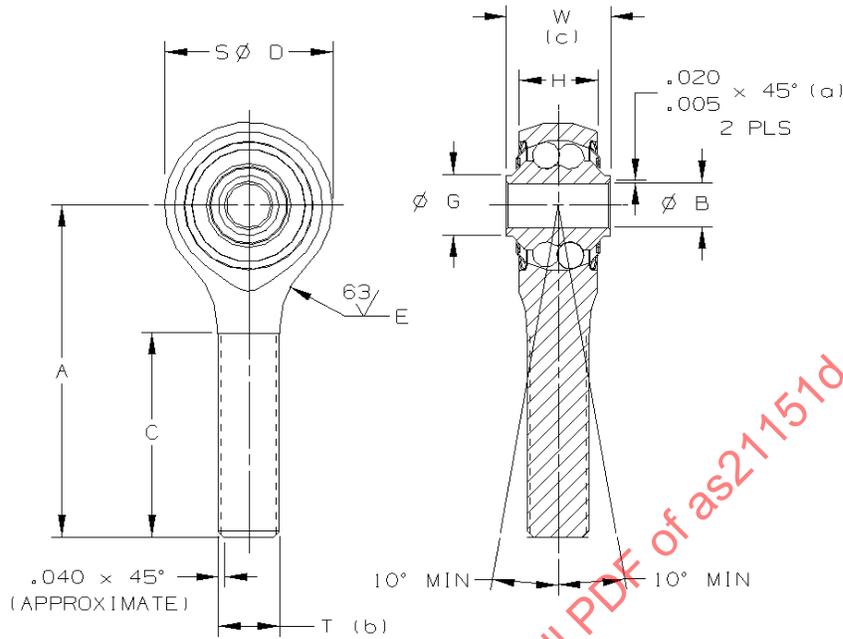
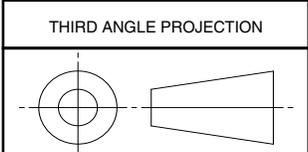


FIGURE 1

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	+0.000 -0.003	±.031	±.010	NOM	±.010	+0.015 -0.000	MIN.	UNJF-3A	+0.000 -0.005				
-1	3/16	1.375	.1900	.750	.781	.422	.328	.005	.276	.1900-32 LH	.437	.04			
-2													.1900-32 RH		
-3		2.031		1.313	.969	.500	.407		.299	.3750-24 RH					
-4		1.375	.781	.750	.390	.328	.276		.3750-24 LH	.437	.05				
-5		1.812		.938	.562	.438	.307		.2500-28 RH				.500	.10	
-6		1.563	1.000	.344	.328	.276	.3750-24 RH		.437	.05					
-7		1/4	1.875	.2500	1.125	.938	.469		.438	.340	.3750-24 RH		.593	.10	
-8											.3750-24 LH				
-9		5/16	2.438	.3125	1.563	1.250	.500		.656	.015	.501		.3750-24 RH	.870	.24
-10													.4375-20 RH		
-11													.6250-18 RH		
-12		5/8	2.750	.6250	1.500	2.000	.500		.938	.015	.875		.6250-18 RH	1.125	.71
-13															

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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

SAE AS21151
SHEET 1 OF 3

REV. D

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ISSUED 1998-01 REVISED 2008-10

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 IN-OZ
	LIMIT LOAD LBF	FRACTURE LOAD LBF	LIMIT LOAD LBF	FRACTURE LOAD LBF	CASE I	CASE II	
-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	2920	4375	585	880	2920	2600	6.0
-10							
-11							
-12	7090	10 600	1420	2130	6160	5340	8.0
-13							

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