

REV. F

AS21151™

RATIONALE

FEDERAL SUPPLY CLASS
3110

ADDED GRADE B TO ZINC-NICKEL PLATING, ADDED TOLERANCE TO 45° BORE CHAMFER AND TYPE I OR TYPE II TO AMS3666 SEAL MATERIAL AS AGREED TO BY THE COMMITTEE. UPDATED SEAL MATERIAL SPECIFICATION TO ASTM D6835 PER DOCUMENT SUPERSESSION.

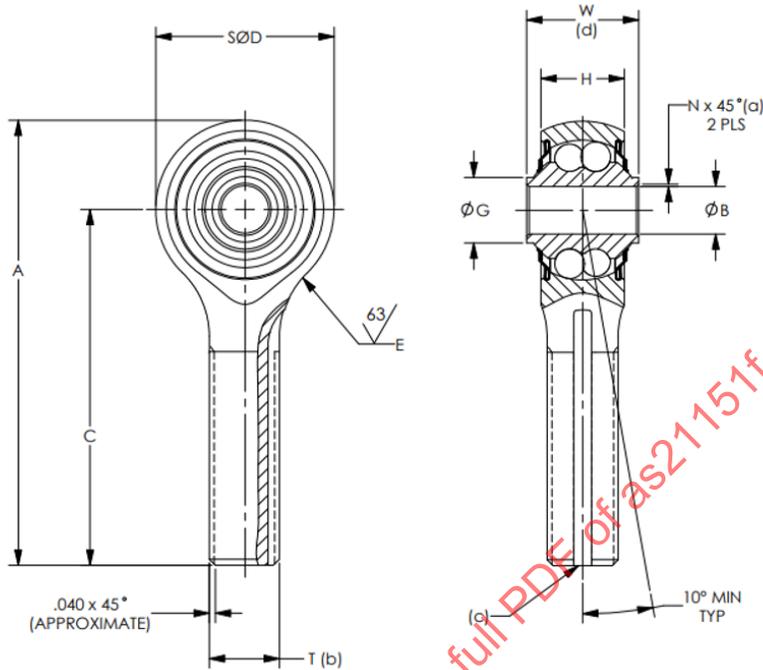
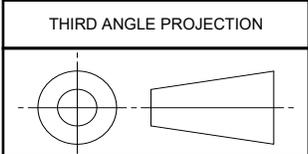


FIGURE 1 - PART CONFIGURATION

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		2.031		.750	.781	.390	.328		.307	.276	.1900-32 RH		.500	
-3											1.313			.969
-4														
-5				.750	.781	.390	.328		.276	.3750-24 LH	.437	.05		
-6	1/4	1.812	.2500	.938	.938	.562	.438	.015	.307	.2500-28 RH	.500	.10		
-7		1.563		1.000		.344	.328		.276		.437		.05	
-8		1.875		1.125		.938	.469		.438	.340	.340	.3750-24 RH	.593	.10
-9												.3750-24 LH		
-10	5/16	2.438	.3125	1.563	1.250	.500	.656	.015	.501	.3750-24 RH	.870	.24		
-11										.4375-20 RH				
-12										.6250-18 RH				
-13										.6250-18 RH				
-13	5/8	2.750	.6250	1.500	2.000	.500	.938	.015	.875	.6250-18 RH	1.125	.71		

For more information on this standard, visit
<https://www.sae.org/standards/content/AS21151F/>



CUSTODIAN: ACBG

PROCUREMENT SPECIFICATION: AS6039



AEROSPACE STANDARD

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

AS21151™
SHEET 1 OF 3

REV. F

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ISSUED 1998-01 REVISED 2024-07

TABLE 2 - ENGINEERING DATA

MS21151 DASH NUMBER (c)	RADIAL STRENGTH		AXIAL STRENGTH		RADIAL LOAD RATING 10000 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	1000	1500	200	300	1000	1000		
-4								
-5								
-6	1720	2580	345	520	1720	1720		4.0
-7								
-8								
-9	2920	4375	585	880	2920	2600	6.0	
-10								
-11								
-12	7090	10600	1420	2130	6160	5340	8.0	
-13								

REQUIREMENTS:

- (a) A RADIUS GIVING THE SAME FILLET CLEARANCE WILL BE ACCEPTABLE. TOLERANCE OF 45° CHAMFER IS ±2°.
- (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). THE KEYWAY SLOT SHALL BE ORIENTATED ALONG THE CENTERLINE OF THE SHANK AND PERPENDICULAR TO THE ROD END HOOP FACE.
- (d) 10° OF MINIMUM MISALIGNMENT IN ANY 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.

1. FOR DESIGN FEATURE PURPOSES, THIS STANDARD TAKES PRECEDENCE OVER ANY OTHER DOCUMENTS REFERENCED HEREIN.
2. REFERENCED DOCUMENTS ARE THE ISSUES IN EFFECT ON DATE OF INVITATIONS FOR BID.
3. RADIAL CLEARANCE: .0000 TO .0004 INCH UNDER 5.5 POUNDS FULLY REVERSING GAGE LOAD.
4. AXIAL CLEARANCE: .0000 TO .003 INCH UNDER 5.5 POUNDS FULLY REVERSING GAGE LOAD.

	AEROSPACE STANDARD	AS21151™ SHEET 2 OF 3	REV. F
	BEARING, BALL, ROD END, DOUBLE ROW, PRECISION, EXTERNAL THREAD, SELF-ALIGNING, AIRFRAME, TYPE II, -65 TO 300 °F		