

REV.  
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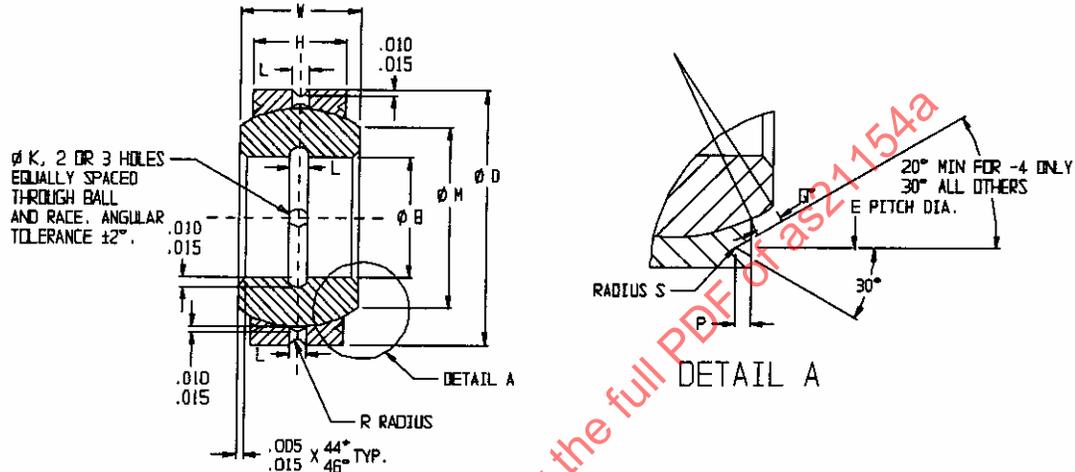
AS21154

FEDERAL SUPPLY CLASS  
3120

NOTICE

THIS DOCUMENT INCLUDES CADMIUM AS A PLATING MATERIAL. THE USE OF CADMIUM HAS BEEN RESTRICTED AND/OR BANNED FOR USE IN MANY COUNTRIES DUE TO ENVIRONMENTAL AND HEALTH CONCERNS. THE USER SHOULD CONSULT WITH LOCAL OFFICIALS ON APPLICABLE HEALTH AND ENVIRONMENTAL REGULATIONS REGARDING ITS USE.

THE REQUIREMENT 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: AS 8976.



REQUIREMENTS:

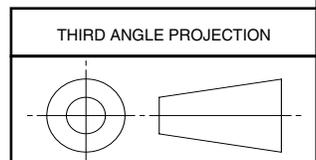
1. MATERIAL:

BALL - 52100 AMS 6440, AMS 6444, AMS S-7420 OR 440C AMS 5630  
 RACE - CODES: "S" ALLOY STEEL AMS-S-5000, AMS-S-6758 OR AMS-S-6050.  
 "B" ALUMINUM BRONZE PER ASTM B124/B 124M, ASTM B150, ASTM B169/B169M  
 AND B 283 EXCEPT THE CHEMICAL COMPOSITION SHALL BE:

ELEMENT	CU	AL	FE	NI	SI	MN	SN	ZN	SUM OF NAMED ELEMENTS MIN
PERCENT	80.0 TO 93.0	6.5 TO 11.0	4.0 MAX	1.0 MAX <sup>(1)</sup>	2.2 MAX <sup>(1)</sup>	1.5 MAX	.60 MAX	1.0 MAX	99.5

(1) WHEN BOTH SILICON AND NICKEL ARE PRESENT, ONLY ONE SHALL BE IN EXCESS OF 0.25 PERCENT.

2. FINISH: BALL - CHROME PLATE AMS-QQ-C-320, CLASS 2, 0.0002 INCHES MINIMUM ON SPHERICAL SURFACES AND ON FACES, PLATING RUNOUT ON BALL ID CHAMFERS ALLOWED. DIMS APPLY AFTER PLATE.  
 RACE - CAD PLATE PER AMS-QQ-P-416, TYPE 1, CLASS 2. DIMS APPLY AFTER PLATE.



CUSTODIAN: SAE AIRFRAME CONTROL BEARINGS GROUP



AEROSPACE STANDARD

BEARING, PLAIN, SELF-ALIGNING,  
GROOVED OUTER RING

AS21154  
SHEET 1 OF 3

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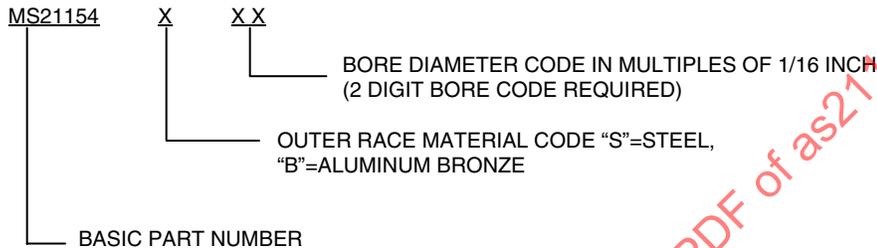
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ISSUED 1998-05 REVISED 2005-08

3. HARDNESS: BALL - Rc 56 MIN.  
RACE - ALLOY STEEL, Rc 27-36.
4. LUBRICATION: PREPACKED WITH MIL-G-21164 GREASE.
5. SURFACE TEXTURE: SPHERICAL SURFACE OF BALL 8 RHR; BORE, BALL FACE AND OUTER RACE O.D. 32 RHR. ALL OTHER SURFACES 125 RHR, IN ACCORDANCE WITH ASME B 46.1.
6. TEMPERATURE RANGE: -65°F TO +250°F
7. INTERNAL CLEARANCE MEASURED UNDER A +/- 5.5 GAGE LOAD: RADIAL -0.0005 TO 0.0020 INCH  
AXIAL - 0.010 INCH MAXIMUM
8. BREAK SHARP EDGES AND CORNERS AND REMOVE ALL BURRS AND SLIVERS.
9. DIMENSIONS IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES: DECIMALS±.010, ANGLES±1/2°.
10. EXAMPLE OF PART NUMBER:



EXAMPLE: MS21154S05

TABLE 1. DIMENSIONS AND LOADS

DASH NO.	Ø B +.0000 -.0005	Ø D +.0000 -.0005	H ±.005	Ø K	L ±.005 (a)	Ø M MIN.	P +.000 -.015	Q° MIN.	Ø E +.000 -.010	RADIUS S	W +.000 -.002	ALLOY STEEL		ALUMINUM BRONZE	
												RADIAL STATIC LIMIT LOAD (b)	AXIAL STATIC LIMIT LOAD (c)	RADIAL STATIC LIMIT LOAD (b)	AXIAL STATIC LIMIT LOAD (c)
3	.1900	.5625	.218			.293			.502		.281	4600	2100	2800	850
4	.2500	.6562	.250	.047	.062	.364	.030	10	.596	.005	.343	7080	2800	4300	1100
5	.3125	.7500	.281			.419			.662	.010	.375	8500	3550	5200	1400
6	.3750	.8125	.312			.475		9	.714		.406	11050	4400	6750	1760
7	.4375	.9062	.343			.530	.040		.808		.437	13900	5400	8500	2150
8	.5000	1.0000	.390	.062	.078	.600			.878		.500	18850	7050	11500	2800
9	.5625	1.0937	.437			.670			.972	.010	.562	25500	8900	15600	3550
10	.6250	1.1875	.500			.739		8	1.065	.020	.625	31950	11700	19500	4650
12	.7500	1.4375	.593			.920	.060		1.315		.750	46750	16500	28500	6575
14	.8750	1.5625	.703	.078	.093	.980			1.440		.875	62750	23300	38300	9300
16	1.0000	1.7500	.797			1.118		9	1.628		1.000	83350	30000	51000	12000

- (a) RACE ID GROOVE (L DIMENSION) AND HOLE DIAMETER TO BE MEASURED BEFORE BEARING ASSEMBLY BUT SWAGING SHALL NOT PREVENT GREASE FLOW.
- (b) THESE BEARINGS MAY EXPERIENCE SOME METAL YIELDING AT THE RADIAL STATIC LIMIT LOADS LISTED.
- (c) THE LIMIT AND ULTIMATE AXIAL LOAD CAPACITY OF THE BEARING CAN BE ACHIEVED ONLY WHEN THE SIDE FACE INSIDE THE GROOVE IS SUPPORTED.