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REV.
A

AS27647™/1

FEDERAL SUPPLY CLASS
3110

RATIONALE

THIS STANDARD WAS REVIEWED AS A PART OF SAE'S FIVE-YEAR REVIEW POLICY. REMOVED AMS5880 FROM BALL CALLOUT DUE TO MATERIAL PERFORMANCE NOT MEETING THE LOAD REQUIREMENTS AND ADDED NEW CADMIUM WARNING.

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS7949.

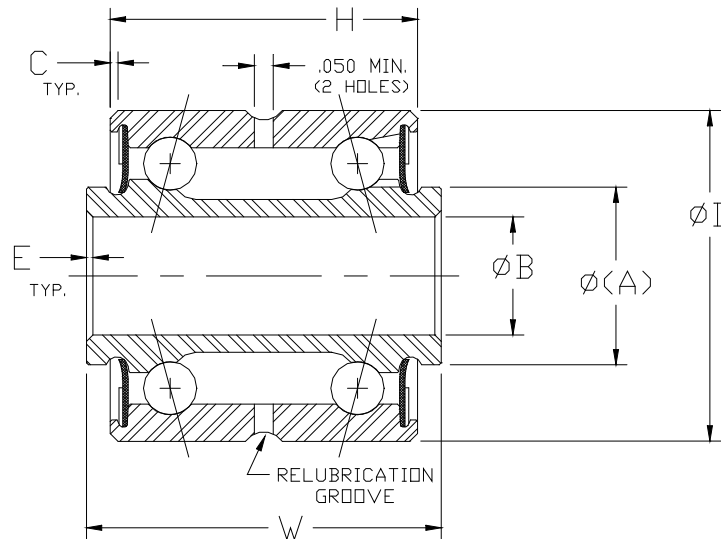


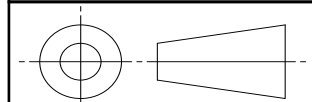
FIGURE 1 - PART CONFIGURATION

SHOWN WITH RELUBRICATION GROOVE

**FOR WITHOUT RELUBRICATION GROOVE OMIT "G" IN PART NUMBER
(SEE REQUIREMENT 5)**

For more information on this standard, visit
<https://www.sae.org/standards/content/AS27647/1A/>

THIRD ANGLE PROJECTION



CUSTODIAN: ACBG

PROCUREMENT SPECIFICATION: AS7949



AEROSPACE STANDARD

BEARING, BALL, AIRFRAME, ANTI-FRICTION, EXTRA
WIDE, DOUBLE ROW, INTERMEDIATE DUTY,
CORROSION-RESISTANT NITROGEN STEEL (CREN)

AS27647™/1
SHEET 1 OF 4

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Documents

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TABLE 1 - DIMENSIONS AND LOADS

AS DASH NO. 8/	ØB BORE +.0000 -.0005 2/	ØD OUTSIDE DIAMETER +.0000 -.0005 1 1/2/	W WIDTH INNER RING +.000 -.005 1/	H WIDTH OUTER RING +.000 -.005 1/	(ØA) SHOULDER DIAMETER INNER RING (APPROX)	E 4/ C 3/ CORNER CHAMFER X 45°		RADIAL LIMIT LOAD RATING POUNDS	THRUST LIMIT LOAD RATING POUNDS	5/ RADIAL LOAD RATING (POUNDS) FOR AVERAGE LIFE OF 10000 COMPLETE 90° CYCLES		WEIGHT POUNDS (APPROX)	7/ MAXIMUM STARTING TORQUE (IN-OZ)
						INNER RING BORE +.015 -.000	OUTER RING OD +.015 -.000			CASE I	CASE II		
-4A	.2500	.6250	.562	.500	.338	.005	.016	1400	500	1050	960	.02	1.0
-4	.2500	.7500	.875	.750	.372	.005	.016	2700	900	2070	1850	.04	1.0
-5	.3125	.8750	.938	.813	.466	.005	.016	5140	1600	2600	2320	.07	1.5
-6	.3750	1.0625	1.188	1.063	.570	.005	.016	8440	2600	4220	3740	.12	2.5
-8	.5000	1.4375	1.500	1.375	.709	.005	.032	15520	4700	7610	6520	.29	2.5

1/ ALL DIMENSIONS TO BE MET AFTER SURFACE TREATMENT.

2/ OUT-OF-ROUND TOLERANCES: BORE: +.0002, -.0007; OUTER DIAMETER: +.0005, -.0010.

3/ A RADIUS GIVING APPROXIMATELY THE SAME GRIP FOR STAKING THE BEARING IN THE HOUSING WILL BE ACCEPTABLE.

4/ A RADIUS GIVING APPROXIMATELY THE SAME FILLET CLEARANCE WILL BE ACCEPTABLE.

5/ CASE I - LOAD FIXED WITH RESPECT TO OUTER RING.

CASE II - LOAD FIXED WITH RESPECT TO INNER RING.

6/ THESE RATINGS ARE FOR OPERATION UP TO 250 °F. FOR OPERATION UP TO 350 °F, THE RATINGS SHALL BE REDUCED BY 20%.

7/ SPECIFIED LIMITS ARE FOR BEARINGS LUBRICATED WITH MIL-PRF-81322 GREASE. FOR BEARINGS LUBRICATED WITH MIL-PRF-23827 TYPE I GREASE, THE TORQUE LIMIT SHALL BE THE SPECIFIED VALUE IN THE TABLE MULTIPLIED BY 1.2.

8/ -4A AND -4 BALL RETAINER TYPE.

REQUIREMENTS:

1. MATERIAL:

RINGS: CORROSION-RESISTANT NITROGEN STEEL (CREN) PER AMS5898, AMS5925, OR AISI 422 STEEL PER AMS5655.

BALLS: NO SUFFIX CODE: CORROSION-RESISTANT NITROGEN STEEL (CREN) PER AMS5898 OR AMS5925.

SUFFIX CODE "T": CORROSION-RESISTANT STEEL (CRES) PER AMS5618.

CRES BALLS SHALL BE PASSIVATED IN ACCORDANCE WITH AMS2700, METHOD 1 (NITRIC ACID) OR METHOD 2 (CITRIC ACID), OR ASTM A967/A967M, CITRIC I, II, OR III. AMS2700, METHOD 1, TYPE 8 SHALL NOT BE USED.

BALL RETAINER/CAGE: (-4A AND -4 ONLY) ANY CORROSION-RESISTANT STEEL.

SEALS: POLYTETRAFLUOROETHYLENE (PTFE) PER AMS3652.

SEAL RETAINERS: ANY CORROSION-RESISTANT STEEL.

2. HARDNESS:

RINGS: STEEL PER AMS5898 AND AMS5925 THROUGH HARDEN TO 58 HRC MINIMUM.

STEEL PER AMS5655: RING WALL THICKNESS .090 OR LESS: CASE HARDEN 58 HRC MINIMUM AT A CASE DEPTH OF 1/3 WALL THICKNESS.

RING WALL THICKNESS GREATER THAN .090: CASE HARDEN 58 HRC MINIMUM AT A CASE DEPTH OF .030.

BALLS: 58 HRC MINIMUM.

3. STABILITY:

RINGS AND BALLS SHALL BE STABILIZED FOR OPERATION UP TO 250 °F.

4. LUBRICANT:

ALL BEARINGS SHALL BE PACKED WITH AN 80% MINIMUM GREASE FILL.

NO SUFFIX CODE: MIL-PRF-81322 GREASE.

SUFFIX CODE "L": MIL-PRF-23827, TYPE I GREASE.

MIL-PRF-23827, TYPE I GREASE SHALL NOT BE USED FOR OPERATION WHERE TEMPERATURES EXCEED 250 °F.

	AEROSPACE STANDARD	AS27647™/1 SHEET 2 OF 4	REV. A 
	BEARING, BALL, AIRFRAME, ANTI-FRICTION, EXTRA WIDE, DOUBLE ROW, INTERMEDIATE DUTY, CORROSION-RESISTANT NITROGEN STEEL (CREN)		



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