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AS27649

RATIONALE

RE-ESTABLISH THE LOAD RATINGS AND STARTING TORQUE VALUES AS SPECIFIED IN AS27649 REVISION B. ADD FLAG NOTE TO STARTING TORQUE TO SPECIFY TORQUE VALUES FOR BEARINGS WITH MIL-PRF-23827 TYPE I GREASE. UNDER FINISH ADD METHOD 1 TO THE AMS2700, REMOVED CITRIC I, II, III FROM THE ASTM A967 PASSIVATION REQUIREMENT AND MADE PASSIVATION OPTIONAL.

NOTICE

UNDER DEPARTMENT OF DEFENSE POLICIES AND PROCEDURES, ANY QUALIFICATION REQUIREMENTS AND ASSOCIATED QUALIFIED PRODUCTS LIST ARE MANDATORY FOR DOD CONTRACTS. ANY REQUIREMENT RELATING TO QUALIFIED PRODUCTS LISTS / DATABASES (QPL/QPD'S) HAS NOT BEEN ADOPTED BY SAE AND IS NOT PART OF THIS TECHNICAL REPORT.

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

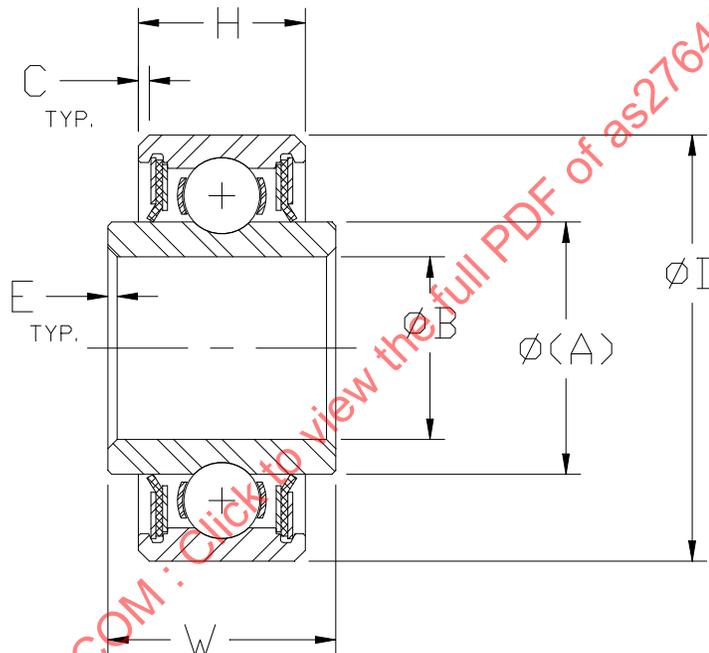
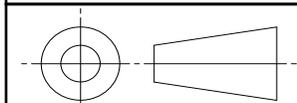


FIGURE 1 - PART CONFIGURATION

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THIRD ANGLE PROJECTION



CUSTODIAN: AIRFRAME CONTROL BEARINGS GROUP

PROCUREMENT SPECIFICATION: AS7949



AEROSPACE STANDARD

(R) BEARING, BALL, AIRFRAME, ANTIFRICTION, INTERMEDIATE DUTY

AS27649
SHEET 1 OF 3

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TABLE 1 - DIMENSIONS AND LOADS

MS DASH NO.	1/ øB	1/ øD	W WIDTH	H WIDTH	(øA) SHOULDER DIAMETER INNER RING (APPROX)	CORNER CHAMFER X 45°		RADIAL LIMIT LOAD RATING POUND	THRUST LIMIT LOAD RATING POUND	4/ RADIAL LOAD RATING (POUND) FOR AVERAGE LIFE OF 10 000 COMPLETE 90° CYCLES		WEIGHT POUNDS (APPROX)	6/ MAXIMUM STARTING TORQUE
	INNER RING	OUTSIDE DIAMETER RING	INNER RING	OUTER RING		3/ INNER RING BORE	2/ OUTER RING OD			CASE I	CASE II		
	+.0000	+.0000	+.0000	+.000		+.015	+.015						
-3	.1900	.6250	.4060	.312	.317	.005	.016	450	210	440	440	.018	1.0
-4	.2500	.7500	.4380	.312	.415	.005	.016	525	250	510	510	.028	1.5
-5	.3125	.8125	.4690	.344	.462	.015	.016	820	380	800	800	.033	1.5
-6	.3750	.8750	.4690	.344	.520	.015	.016	820	380	800	800	.034	2.0
-8	.5000	1.1250	.5620	.438	.681	.015	.016	1350	630	1310	1310	.075	2.5
-10	.6250	1.3750	.5940	.469	.848	.015	.032	1840	860	1790	1790	.119	3.0
-12	.7500	1.6250	.6560	.531	1.052	.015	.032	2400	1120	2340	2340	.189	3.0
-16	1.0000	2.0000	.6880	.562	1.334	.015	.032	3000	1400	2920	2920	.296	4.0
-20	1.2500	2.2500	.6880	.562	1.615	.015	.032	3600	1680	3500	3270	.355	5.0

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

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

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

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

CASE II - LOAD FIXED WITH RESPECT TO INNER RING.

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

6/ 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.

REQUIREMENTS:

- MATERIAL: RINGS AND BALLS: 440C CRES PER AMS5880 OR AMS5618
 BALL RETAINER: ANY CORROSION RESISTANT STEEL
 SEALS: POLYTETRAFLUOROETHYLENE (PTFE) PER AMS3652
 SEAL RETAINERS: ANY CORROSION RESISTANT STEEL
- LUBRICANT: MIL-PRF-81322 OR MIL-PRF-23827 TYPE I, ALL BEARINGS SHALL BE PACKED WITH AN 80% MINIMUM GREASE FILL CONFORMING TO MIL-PRF-81322 UNLESS OTHERWISE SPECIFIED. IF MIL-PRF-23827 TYPE I IS REQUIRED, ADD THE LETTER "G" AFTER THE MS27649 DASH NUMBER. MIL-PRF-23827 TYPE I SHALL NOT BE USED FOR OPERATION WHERE TEMPERATURES EXCEED 250 °F.
- HARDNESS: HEAT TREAT RINGS AND BALLS TO 57-63 HRC AND STABILIZE FOR OPERATION AT 250 °F
- SURFACE ROUGHNESS: RACEWAYS AND BALL SHALL HAVE A MAXIMUM SURFACE ROUGHNESS OF 8 MICROINCHES Ra PER ANSI/ASME B46.1
- FINISH (OPTIONAL): PASSIVATE RING SURFACES PER ASTM A967 OR AMS2700, METHOD 1 OR METHOD 2
- RADIAL INTERNAL CLEARANCE: .0003 TO .0009
- RADIAL ECCENTRICITY: INNER RING, .0010 MAX; OUTER RING, .0016 MAX.
- LATERAL ECCENTRICITY: INNER RING, .0010 MAX; OUTER RING, .0016 MAX.

	AEROSPACE STANDARD	AS27649 SHEET 2 OF 3	REV. D
	(R) BEARING, BALL, AIRFRAME, ANTIFRICTION, INTERMEDIATE DUTY		