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REV.
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AS5927™

FEDERAL SUPPLY CLASS
3110

RATIONALE

AS5927B IS BEING REVIEWED AS A PART OF SAE'S FIVE-YEAR REVIEW POLICY. UPDATED SURFACE FINISH REQUIREMENTS. UPDATED LUBRICATION STATEMENT.

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS39901.

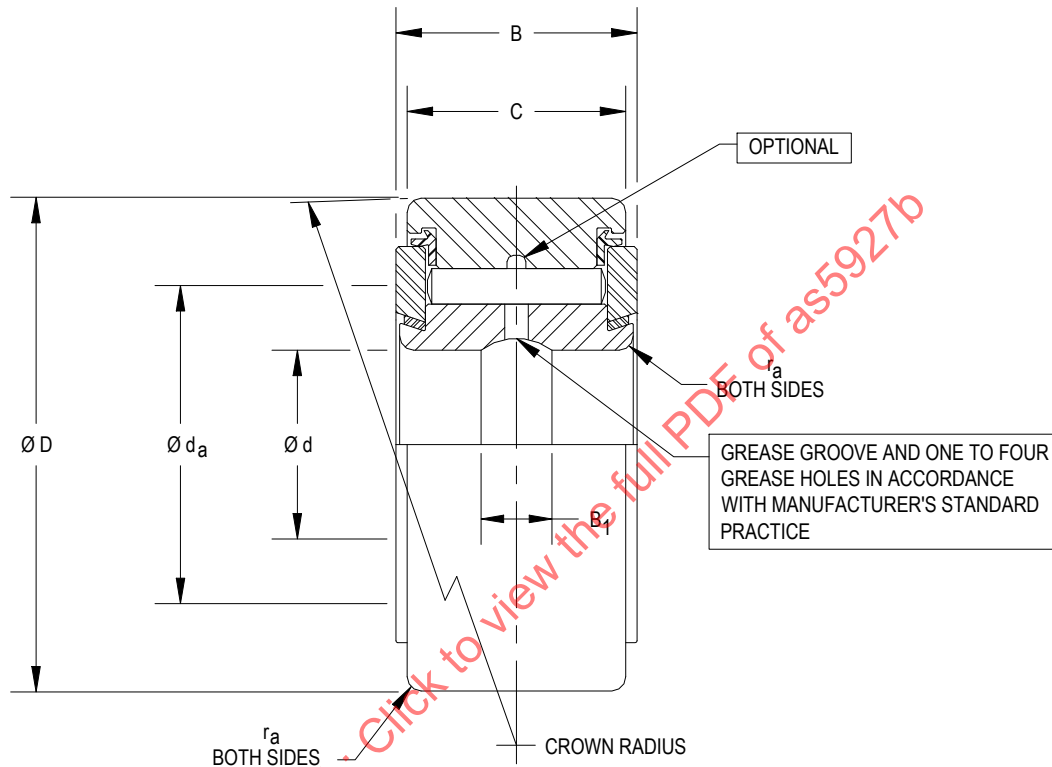
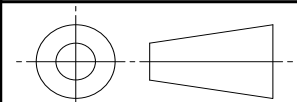


FIGURE 1

For more information on this standard, visit
<https://www.sae.org/standards/content/AS5927B/>

THIRD ANGLE PROJECTION



CUSTODIAN: ACBG

PROCUREMENT SPECIFICATION: AS39901



AEROSPACE STANDARD

BEARING, ROLLER, NEEDLE, SINGLE ROW, HEAVY DUTY,
TRACK ROLLER, SEALED, TYPE V, ANTI-FRICTION,
CORROSION RESISTANT NITROGEN (CREN) STEEL, INCH

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ISSUED 2005-09 REVISED 2023-11

TABLE 1

DASH NO.	Ød BORE	ØD OUTER RING OD	C OUTER RING WIDTH	B OVERALL WIDTH	Ød _c CLAMPING DIAMETER MINIMUM	R _s RADIUS MINIMUM	B ₁ LUBRICATION GROOVE WIDTH	CROWN RADIUS REF	RADIAL INTERNAL CLEARANCE MAXIMUM	CAPACITY AS A TRACK ROLLER POUNDS	TRACK CAPACITY 40 HRC POUNDS	LIMIT LOAD RATING POUNDS	WEIGHT (APPROX) POUNDS
-103	.1900	.7500	.280	.312	.438	.022	.094	10.0	.0018	875	290	1200	.03
-104	.2500	.8750	.345	.375	.516	.022	.125	10.0	.0018	1420	575	2000	.05
-106	.3750	1.0625	.455	.500	.672	.022	.188	10.0	.0018	2800	1000	3800	.10
-108	.5000	1.3125	.580	.625	.844	.022	.188	12.5	.0018	4550	1785	6200	.18
-110	.6250	1.5000	.705	.750	.953	.032	.250	17.5	.0018	6700	2600	9000	.28
-112	.7500	1.7500	.950	1.000	1.109	.032	.250	25.0	.0018	11000	4050	15500	.52
-114	.8750	2.0000	1.075	1.125	1.219	.032	.250	27.5	.0018	15000	5350	21000	.75
-116	1.0000	2.2500	1.075	1.125	1.500	.032	.250	27.5	.0018	16500	6000	23500	.90
-120	1.2500	2.5000	1.200	1.250	1.625	.032	.375	30.0	.0018	20000	7100	27000	1.16
-124	1.5000	3.0000	1.440	1.500	2.000	.032	.375	60.0	.0018	30000	10800	41000	2.36
-128	1.7500	3.4375	1.440	1.500	2.281	.032	.375	60.0	.0018	34000	12400	48000	2.71
-132	2.0000	3.8750	1.440	1.500	2.562	.032	.375	60.0	.0018	36700	14000	48900	3.42
-136	2.2500	4.3125	1.440	1.500	2.589	.032	.375	60.0	.0018	41200	15600	55000	4.23
-140	2.5000	4.7500	1.440	1.500	3.109	.032	.375	60.0	.0020	44900	17200	59900	5.14
-144	2.7500	5.0000	1.440	1.500	3.344	.032	.375	60.0	.0020	46800	18100	64800	5.49

TABLE 2

Ød BASIC BORE		ALLOWABLE DEVIATION FROM Ød OF SINGLE MEAN DIAMETER Ød _{mp}		ALLOWABLE DEVIATION FROM OVERALL WIDTH B		ALLOWABLE DEVIATION FROM LUBRICATION GROOVE WIDTH B ₁		ØD BASIC OUTSIDE DIAMETER		ALLOWABLE DEVIATION FROM ØD OF SINGLE MEAN DIAMETER Ød _{mp}		ALLOWABLE DEVIATION FROM OUTER RING WIDTH C	
OVER	INCL	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW
.1900	2.750	0	-.0007	0	-.010	0	-.062	.7500	5.000	+.001	-.001	0	-.015

REQUIREMENTS:

1. MATERIAL:

- INNER RING, OUTER RING, AND NEEDLES: CORROSION RESISTANT NITROGEN (CREN) STEEL PER AMS5898, AMS5925, OR 422 STEEL PER AMS5655.
- ENDWASHERS: 420 STEEL PER AMS5506 OR AMS5621, 422 STEEL PER AMS5655, OR CORROSION RESISTANT NITROGEN (CREN) STEEL PER AMS5898 OR AMS5925.
- SEALS: POLYAMIDE (NYLON) PER L-P-410, TYPE 6/6 WEAR RESISTANT GRADE OR ACETAL COPOLYMER WITH LUBRICANT FILLERS PER ASTM D6778.
- RETAINING RINGS (OPTIONAL): BRASS.

2. HEAT TREATMENT:

- INNER AND OUTER RINGS: STEEL PER AMS5898 AND AMS5925 THROUGH HARDEN TO 58 HRC MINIMUM. STEEL PER AMS5655 CASE HARDEN TO 58 HRC MINIMUM AT A CASE DEPTH OF .030.
- NEEDLES: 58 HRC MINIMUM.
- ENDWASHERS: 50-56 HRC.

3. FINISH:

INNER AND OUTER RINGS, NEEDLES, AND ENDWASHERS: PASSIVATE PER AMS2700, METHOD 1, TYPE 2, OR METHOD 2. TEST FOR PASSIVATION PER AMS2700 METHOD 101 OR METHOD 102.



AEROSPACE STANDARD

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TRACK ROLLER, SEALED, TYPE V, ANTI-FRICTION,
CORROSION RESISTANT NITROGEN (CREN) STEEL, INCH

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4. SURFACE TEXTURE IN ACCORDANCE WITH ASME B46.1:

- a. NEEDLE OD – 8 MICROINCHES Ra MAXIMUM
- b. INNER AND OUTER RACEWAYS – 16 MICROINCHES Ra MAXIMUM
- c. BORE AND OD – 40 MICROINCHES Ra MAXIMUM
- d. ENDWASHER FACES – 63 MICROINCHES Ra MAXIMUM

5. LUBRICANT:

ALL BEARINGS SHALL BE PRE-PACKED 80 TO 100% FULL WITH MAINTENANCE-FREE GREASE, CONSISTING OF A LITHIUM COMPLEX THICKENED SYNTHETIC BASE OIL GREASE (GREASE A) MIXED WITH A HIGH QUALITY PTFE THICKENED PERFLUORINATED OIL GREASE (GREASE B). IF RELUBRICATION IS DESIRED BY THE INSTALLER/ENDUSER, RELUBRICATING WITH THE LITHIUM COMPLEX THICKENED SYNTHETIC BASE OIL GREASE COMPONENT (GREASE A) IS RECOMMENDED. GREASES USED FOR THE ORIGINAL FILL AND RELUBRICATION MUST BE APPROVED BY THE QUALIFYING ACTIVITY AND IDENTIFIED BY BRAND NAME ON QUALIFICATION DRAWINGS.

6. MARKING:

THE MARKING SHALL CONSIST OF THE AS PART NUMBER AND THE MANUFACTURER'S CAGE CODE IN ACCORDANCE WITH MIL-STD-130 AND A LOT CONTROL NUMBER.

7. PART NUMBER:

THE PART NUMBER SHALL CONSIST OF THE STANDARD NUMBER FOLLOWED BY A DASH NUMBER TAKEN FROM TABLE 1.

EXAMPLE: AS5927-112

8. PACKAGING:

BEARINGS SHALL BE INDIVIDUALLY PACKAGED TO THE REQUIREMENTS OF MIL-DTL-197 AND MIL-STD-2073-1. PACKAGE MARKED WITH THE MANUFACTURER'S NAME OR TRADEMARK, DATE OF LUBRICATION BY MONTH AND YEAR, AND LOT CONTROL NUMBER.

9. DIMENSIONS:

ALL DIMENSIONS ARE IN INCHES.

10. LOAD RATING:

THE LIMIT LOAD RATING CAN BE DEFINED AS THE MAXIMUM RADIAL LOAD THAT CAN BE APPLIED TO A BEARING WITHOUT IMPAIRING THE SUBSEQUENT FUNCTIONING OF THE BEARING. THE ULTIMATE OR STATIC FRACTURE LOAD RATING IS NOT LESS THAN 1.5 TIMES THE LIMIT LOAD RATING. THE LOAD RATING AS A TRACK ROLLER IS THE LOAD THE BEARING WILL CARRY AS A TRACK ROLLER FOR AN L-10 LIFE OF 40000 REVOLUTIONS.

11. TEMPERATURE:

BEARING OPERATING TEMPERATURE -65 TO +250 °F.

NOTES:

- 1. AS5927 TYPE V BEARINGS HAVE A DESIGN ENVELOPE IDENTICAL TO AS21438 TYPE V BEARING.
- 2. AS5927 TYPE V BEARINGS HAVE GREATER CORROSION RESISTANCE AND HIGHER STATIC AND DYNAMIC LOAD CAPACITY THAN AS21438 TYPE V BEARINGS.
- 3. BEARINGS HAVE CORROSION RESISTANCE SIMILAR TO THAT OF 15-5PH STEEL.
- 4. BEARINGS CAN BE USED MAINTENANCE-FREE FOR LESS DEMANDING APPLICATIONS.
- 5. FOR DESIGN FEATURE PURPOSES, THIS STANDARD TAKES PRECEDENCE OVER DOCUMENTS REFERENCED HEREIN.

	AEROSPACE STANDARD	AS5927™ SHEET 3 OF 4	REV. B
	BEARING, ROLLER, NEEDLE, SINGLE ROW, HEAVY DUTY, TRACK ROLLER, SEALED, TYPE V, ANTI-FRICTION, CORROSION RESISTANT NITROGEN (CERN) STEEL, INCH		