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REV.
D

AS21438™

RATIONALE

AS21438 REV D IS BEING UPDATED FOR FIVE-YEAR REVIEW. FIGURE 1 HAS BEEN UPDATED FOR CLARITY. TABLES HAVE BEEN REFORMATTED. RING AND ENDWASHER SUPERSEDED MATERIAL OPTIONS UPDATED, OUTER RING AND INNER RING FINISH REQUIREMENTS HAVE BEEN CLARIFIED. LUBRICATION OPTIONS FORMATTED FOR CLARITY. ADDED RADIAL INTERNAL CLEARANCE REQUIREMENT. CORRECTED TYPO IN TABLE 1 TRACK CAPACITY.

NOTICE

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

FEDERAL SUPPLY CLASS
3110

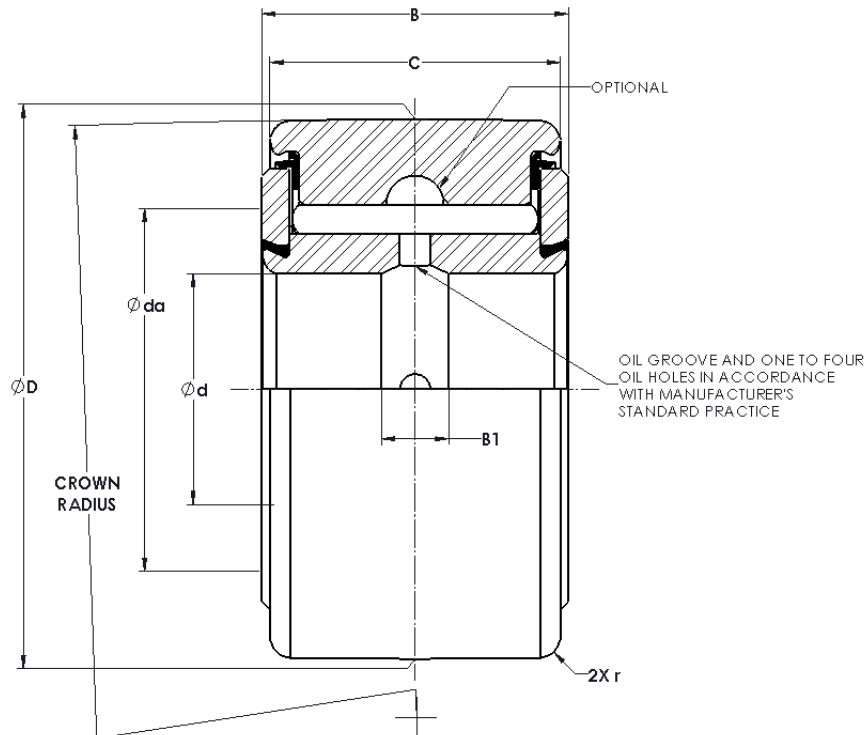
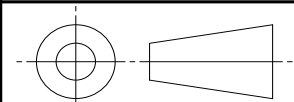


FIGURE 1

For more information on this standard, visit
<https://www.sae.org/standards/content/AS21438D>

THIRD ANGLE PROJECTION



CUSTODIAN: ACBG

PROCUREMENT SPECIFICATION: AS39901



AEROSPACE STANDARD

(R) BEARING, ROLLER, NEEDLE, SINGLE ROW,
HEAVY DUTY, TRACK ROLLER, SEALED, TYPE V
ANTIFRICTION, INCH

AS21438™
SHEET 1 OF 4

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TABLE 1 - DIMENSIONS

DASH NO.	d BORE	D OUTER RING OUTSIDE DIA	C OUTER RING WIDTH	B OVERALL WIDTH	d _s CLAMPING DIA MIN	r RAD MIN	B ₁ LUBRICATION GROOVE WIDTH	CROWN RADIUS REF	TOTAL CAPACITY CLEARANCE MAX	CAPACITY AS A TRACK ROLLER LBS	TRACK CAPACITY 40 HRC LBS	LIMIT LOAD RATING LBS	MASS (APPROX) LBS
-103	.1900	.7500	.280	.312	.438	.022	.094	10.000	.0018	900	290	1200	.03
-104	.2500	.8750	.345	.375	.516	.022	.125	10.000	.0018	1430	575	1910	.05
-106	.3750	1.0625	.455	.500	.672	.022	.188	10.000	.0018	2700	1000	3600	.10
-108	.5000	1.3125	.580	.625	.844	.032	.188	12.500	.0018	4300	1785	5780	.18
-110	.6250	1.5000	.705	.750	.953	.032	.250	17.500	.0018	6400	2600	8500	.28
-112	.7500	1.7500	.950	1.000	1.109	.032	.250	25.000	.0018	18700	4050	14200	.52
-114	.8750	2.0000	1.075	1.125	1.219	.032	.250	27.500	.0018	14400	5350	19300	.75
-120	1.2500	2.5000	1.200	1.250	1.625	.032	.375	30.000	.0018	18900	7100	25300	1.16
-124	1.5000	3.0000	1.440	1.500	2.000	.032	.375	60.000	.0018	28400	10900	37900	2.36
-128	1.7500	3.4375	1.440	1.500	2.281	.032	.375	60.000	.0018	33000	12400	44100	2.71
-132	2.0000	3.8750	1.440	1.500	2.562	.032	.375	60.000	.0018	36700	14000	48900	3.42
-136	2.2500	4.3125	1.440	1.500	2.859	.032	.375	60.000	.0018	41200	15600	55000	4.23
-140	2.5000	4.7500	1.440	1.500	3.109	.032	.375	60.000	.0020	44900	17200	59900	5.14
-144	2.7500	5.0000	1.440	1.500	3.344	.032	.375	60.000	.0020	46800	18100	64800	5.49

1/ ALL DIMENSIONS TO BE MET AFTER PLATING.

TABLE 2 - TOLERANCE VALUES

d BASIC BORE		ALLOWABLE DEVIATION FROM d OF SINGLE MEAN DIA, d _{mp}		ALLOWABLE DEVIATION FROM OVERALL WIDTH B		ALLOWABLE DEVIATION FROM LUBRICATION GROOVE WIDTH B ₁		D BASIC OUTSIDE DIA		ALLOWABLE DEVIATION FROM d OF SINGLE DIA, D _{mp}		ALLOWABLE DEVIATION FROM OUTER RING WIDTH C	
OVER	INCL	HIGH	LOW	HIGH	LOW	HIGH	LOW	OVER	INCL	HIGH	LOW	HIGH	LOW
.1250	2.7500	0	-.0007	0	-.010	0	-.062	.6875	5.0000	+.001	-.001	0	-.015

REQUIREMENTS

1. MATERIAL:

- a. INNER RING, OUTER RING, AND NEEDLES: 52100 STEEL PER AMS6440, AMS6444, AMS6447, OR ASTM A295/A295M.
- b. ENDWASHERS: 52100 STEEL PER AMS6440, AMS6444, AMS6447, OR ASTM A295/A295M. AISI 1074 STEEL PER ASTM A684/A684M.
- c. SEALS AND BACKING RINGS: ACETAL RESIN PER ASTM D6778 POM 111 OR NYLON PER L-P-410, TYPE 6/6, WEAR RESISTANT GRADE, OR POLYESTER ELASTOMER. CONSTRUCTION OPTIONAL.
- d. RETAINING RINGS (OPTIONAL): BRASS.

2. HEAT TREAT:

- a. OUTER RING: HARDEN AND TEMPER TO 58 TO 62 HRC.
- b. INNER RING: HARDEN AND TEMPER TO 60 TO 64 HRC OR INDUCTION HARDEN TO 60 TO 64 HRC FOR .015 INCH MINIMUM DEPTH AND 50 HRC AT .030 INCH MINIMUM DEPTH.
- c. NEEDLES: HARDEN AND TEMPER TO 60 TO 64 HRC.
- d. ENDWASHERS: HARDEN AND TEMPER TO 51 TO 56 HRC.

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	(R) BEARING, ROLLER, NEEDLE, SINGLE ROW, HEAVY DUTY, TRACK ROLLER, SEALED, TYPE V ANTIFRICTION. INCH			



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