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REV.
C

AS21442™

FEDERAL SUPPLY CLASS
3110

RATIONALE

AS21442 REV. C IS A FIVE-YEAR REVIEW. CHANGES INCLUDE CORRECTING WASHER MATERIAL SPECIFICATION AND ADDING AISI 1215 AS AN OPTION. CLARIFY FINISH FOR WASHER AND INNER RING. UPDATED FIGURE 1.

NOTICE

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

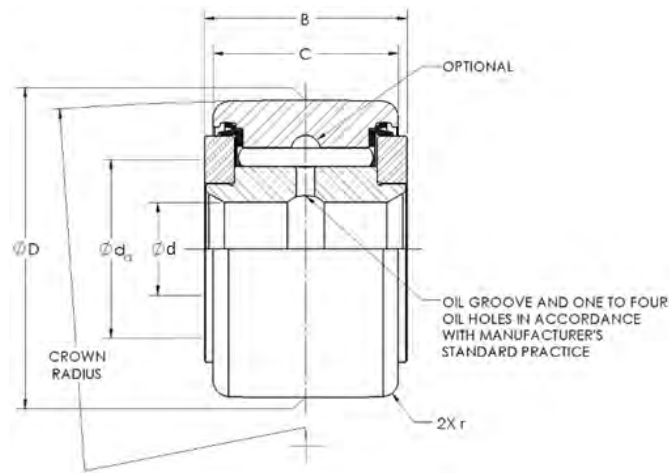
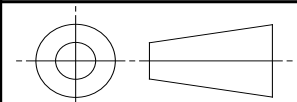


FIGURE 1

For more information on this standard, visit
<https://www.sae.org/standards/content/AS21442C/>

THIRD ANGLE PROJECTION



CUSTODIAN: ACBG

PROCUREMENT SPECIFICATION: AS39901



AEROSPACE STANDARD

BEARING, ROLLER, NEEDLE, TRACK ROLLER,
SEALED, TYPE X,
ANTIFRICTION, INCH

AS21442™
SHEET 1 OF 3

REV.
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TABLE 1 - DIMENSIONS

DASH NO.	ød BORE	ØD OUTSIDE DIAMETER	C OUTER RING WIDTH	B OVERALL WIDTH	ø d _c CLAMPING DIAMETER MINIMUM	CROWN RADIUS REF	r MAX FILLET CORNER WILL CLEAR	CAPACITY AS A TRACK ROLLER	TRACK CAPACITY HRC 40 lbf	LIMIT LOAD RATING lbf	MASS (APPROX) POUNDS
-121	.2500	.7500	.500	.5625	.500	10	.016	2000	1030	2600	.06
-141	.2500	.8750	.500	.5625	.500	10	.016	2000	1160	2600	.08
-161	.3125	1.0000	.625	.6875	.641	12	.032	2900	1480	3900	.15
-181	.3125	1.1250	.625	.6875	.641	12	.032	2900	1670	3900	.17
-201	.3750	1.2500	.750	.8125	.766	14	.047	4500	2330	5500	.24
-221	.3750	1.3750	.750	.8125	.766	14	.047	4500	2570	5500	.30
-241	.4375	1.5000	.875	.9375	.891	20	.063	5800	3380	7300	.41
-261	.4375	1.6250	.875	.9375	.891	20	.063	5800	3660	7300	.50
-281	.5000	1.7500	1.000	1.0625	1.047	20	.063	8100	4500	10300	.64
-301	.5000	1.8750	1.000	1.0625	1.047	20	.063	8100	4820	10300	.80
-321	.6250	2.0000	1.250	1.3125	1.203	24	.094	11100	6550	13800	1.05
-361	.6250	2.2500	1.250	1.3125	1.203	24	.094	11100	7370	13800	1.32
-401	.7500	2.5000	1.500	1.5625	1.313	30	.094	16200	9250	21600	1.80
-441	.7500	2.7500	1.500	1.5625	1.313	30	.094	16200	10200	21600	2.25
-481	1.0000	3.0000	1.750	1.8125	1.750	30	.125	24600	13400	32800	3.10
-521	1.0000	3.2500	1.750	1.8125	1.750	30	.125	24600	14500	32800	3.62
-561	1.1250	3.5000	2.000	2.0625	1.922	30	.125	31200	18300	41700	4.95
-641	1.2500	4.0000	2.250	2.3125	2.281	30	.125	41000	24100	54700	7.05

TABLE 2 - TOLERANCE LIMITS

ø d BASIC BORE		ALLOWABLE DEVIATION FROM d OF SINGLE MEAN DIA, d _{mp}		ALLOWABLE DEVIATION FROM OVERALL WIDTH, B	
OVER	INCL	HIGH	LOW	HIGH	LOW
.1875	.7500	+.0002	-.0004	+.005	-.010
.7500	1.2500	+.0001	-.0005	+.005	-.010

ø D BASIC OUTSIDE DIAMETER		ALLOWABLE DEVIATION FROM D OF SINGLE MEAN DIA, D _{mp}		ALLOWABLE DEVIATION FROM OUTER RING WIDTH, C	
OVER	INCL	HIGH	LOW	HIGH	LOW
.6250	4.0000	.0020	-.0005	+.005	-.005

REQUIREMENTS:

1. MATERIAL:

- RINGS AND NEEDLES: 52100 STEEL PER AMS6440, AMS6444, AMS6447, OR ASTM A295/A295M.
- ENDWASHER: 52100 STEEL PER AMS6440, AMS6444, AMS6447, OR ASTM A295/A295M, AISI 1070-1095 PER ASTM A108, OR AISI 1010, 1018, 1020, 1117, 1213, OR 1215 STEEL.
- SEALS: POLYAMIDE (NYLON) PER L-P-410, TYPE 6/6 WEAR RESISTANT GRADE OR ACETAL COPOLYMER WITH LUBRICANT FILLERS PER ASTM D6778, OR THERMOPLASTIC POLYESTER ELASTOMER WITH ADDITIVES.

2. HEAT TREAT:

- OUTER RING: HARDEN AND TEMPER TO 58 TO 62 HRC.
- INNER RING: HARDEN AND TEMPER TO 60 TO 64 HRC.
- ALTERNATE INNER RING (RACEWAY): CARBURIZE WITH A SURFACE HARDNESS OF MINIMUM 60 HRC OR INDUCTION HARDEN TO 60 HRC MINIMUM. REMAINDER MAY BE SOFTENED FOR MANUFACTURING.
- NEEDLES: HARDEN AND TEMPER TO 60 TO 64 HRC.
- ENDWASHER: HARDEN AND TEMPER TO 52 TO 56 HRC, EXCEPT AISI 1010, 1018, 1020, 1117, 1213, OR 1215 HARDENED TO A DEPTH OF .005 INCH MINIMUM WITH A SURFACE HARDNESS OF 51 TO 59 HRC ON THE WEAR SURFACE. REMAINDER MAY BE SOFTENED FOR MANUFACTURING.

	AEROSPACE STANDARD		AS21442™ SHEET 2 OF 3	REV. C
	BEARING, ROLLER, NEEDLE, TRACK ROLLER, SEALED, TYPE X, ANTIFRICTION, INCH			





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