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REV.
D

AS21447™

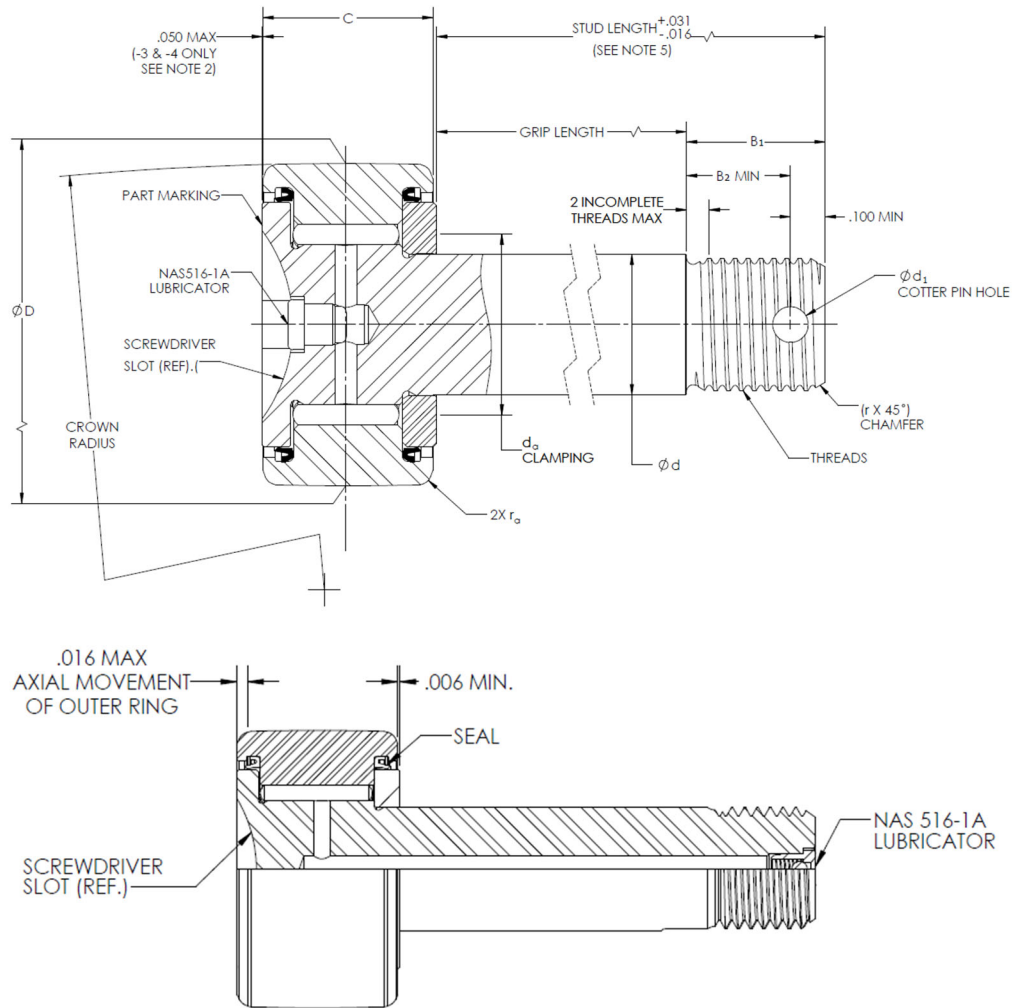
FEDERAL SUPPLY CLASS
3110

RATIONALE

FIVE-YEAR REVIEW. CHANGES INCLUDE UPDATING THE CADMIUM NOTICE, THE GRAPHIC LEGIBILITY, AND THE FORMATTING OF SURFACE TEXTURE CALLOUTS.

NOTICE

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

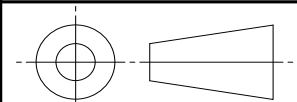


SECTION F-F

FIGURE 1

For more information on this standard, visit
<https://www.sae.org/standards/content/AS21447D/>

THIRD ANGLE PROJECTION



CUSTODIAN: ACBG

PROCUREMENT SPECIFICATION: AS39901



AEROSPACE STANDARD

BEARING, ROLLER, NEEDLE, TRACK ROLLER,
CROWN RADIUSED OD INTEGRAL STUD,
TYPE VII ANTIFRICTION, INCH

AS21447™
SHEET 1 OF 4

REV.
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Documents

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TABLE 1

FIRST DASH NO.	Ø d STUD DIA	Ø D OUTER RING OUTSIDE DIA	C OUTER RING WIDTH	CROWN RADIUS (REF)	THREAD SIZE UNJF-3A	B ₁ THREAD LENGTH REF	Ø d _s CLAMPING DIA MIN	B ₂ MIN	Ø d ₁ COTTER PIN HOLE DIA	r _a RAD MIN	r	TOTAL RADIAL PLAY MAX	LIMIT LOAD RATING lbr	1/ LB-IN MAX	TRACK CAPACITY 40 HRC lbr	LOAD RATING AS A TRACK ROLLER lbr	MASS (APPROX) lb
-3	.1900	.5000	.281	10	.1900-32	.344	.297	.211	.070	.022	.031	.0017	790	8	385	395	.014 + (GRIP LENGTH NO. x .0005)
-4	.2500	.6875	.281	10	.2500-28	.344	.359	.224	.076	.022	.031	.0017	940	20	525	470	.031 + (GRIP LENGTH NO. x .0009)
-5	.3125	.7500	.344	10	.3125-24	.359	.422	.234	.076	.022	.047	.0017	1660	42	725	830	.043 + (GRIP LENGTH NO. x .0014)
-6	.3750	.8750	.469	10	.3750-24	.359	.500	.265	.106	.032	.047	.0017	2720	55	1100	1360	.081 + (GRIP LENGTH NO. x .0020)
-7	.4375	1.0000	.531	10	.4375-20	.422	.562	.283	.106	.032	.047	.0017	3860	150	1425	1930	.125 + (GRIP LENGTH NO. x .0026)
-8	.5000	1.1250	.656	10	.5000-20	.422	.625	.314	.106	.046	.047	.0017	6080	205	1975	3040	.190 + (GRIP LENGTH NO. x .0035)

1/ INSTALLATION TORQUE LUBRICATED THREADS.

TABLE 2 - TOLERANCE VALUES

Ø d BASIC STUD DIA		ALLOWABLE DEVIATION FROM d OF SINGLE MEAN DIA, d _{mp}		ALLOWABLE DEVIATION FROM COTTER PIN DIA, d ₁	
OVER	INCL	HIGH	LOW	HIGH	LOW
.1250	.5000	+0	-.0015	+.010	-0

Ø D BASIC OUTER RING OUTSIDE DIA		ALLOWABLE DEVIATION FROM D OF SINGLE MEAN DIA, D _{mp}		ALLOWABLE DEVIATION FROM OUTER RING WIDTH C	
OVER	INCL	HIGH	LOW	HIGH	LOW
.4375	1.1250	+.0010	-.0005	+0	-.005

REQUIREMENTS:

1. MATERIAL:

- OUTER RING AND NEEDLES: 52100 STEEL PER AMS6440, AMS6444, AMS6447, OR ASTM A295/A295M.
- STUD: 52100 STEEL PER AMS6440 OR 8620 STEEL PER AMS6274.
- ENDWASHER: 52100 STEEL PER AMS6440 OR 1010, 1018, 1070 THRU 1095, 1117 OR 1231 STEEL PER AIR4127.
- 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.
- NEEDLES: HARDEN AND TEMPER TO 60 TO 64 HRC.
- ENDWASHER: HARDEN AND TEMPER TO 52 TO 56 HRC. 1010, 1018, 1117, OR 1213 HARDENED TO A DEPTH OF .005 MINIMUM WITH A SURFACE HARDNESS OF 51 TO 59 HRC ON THE WEAR SURFACE. REMAINDER MAY BE SOFTENED FOR MANUFACTURING.
- STUD (RACEWAY): CARBURIZE WITH A SURFACE HARDNESS OF 60 HRC MINIMUM OR INDUCTION HARDEN TO 60 HRC MINIMUM.
- STUD (FLANGE): SURFACE HARDNESS 51 HRC MINIMUM.
- STUD (SHANK): HARDEN AND TEMPER TO 36 TO 46 HRC.

3. SURFACE TREATMENT:

- OUTER RING: CHROME PLATE PER AMS2460, CLASS 2. OD AND CORNERS .0004 TO .0010 INCH THICKNESS. FACES MINIMUM .0003 INCH THICKNESS.
- ENDWASHER: ALL EXPOSED SURFACES ZINC-NICKEL IN ACCORDANCE WITH AMS2417, TYPE 2, GRADE B, OR CADMIUM PLATED IN ACCORDANCE WITH AMS-QQ-P-416, TYPE I, CLASS 2, WITH A THICKNESS OF .0003 TO .0006 INCH.
- STUD: ALL EXPOSED SURFACES ZINC-NICKEL IN ACCORDANCE WITH AMS2417, TYPE 2, OR CADMIUM PLATED IN ACCORDANCE WITH AMS-QQ-P-416, TYPE I, CLASS 2, WITH A THICKNESS OF .0003 TO .0006 INCH.

IF ZINC-NICKEL PLATING IS REQUIRED ON ENDWASHER AND STUD, ADD THE LETTER "E." NO CODE DESIGNATES CADMIUM PLATING IS REQUIRED.

	AEROSPACE STANDARD	AS21447™ SHEET 1 OF 1 	REV.
	BEARING, ROLLER, NEEDLE, TRACK ROLLER, CROWN RADIUS OD INTEGRAL STUD, TYPE VII ANTIFRICTION, INCH		



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