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This military specification is approved by the Department of Defense and is mandatory for all new engineering and design applications and for repetitive use shall be made from this document.

P.A. NODU
Other Cust
ORD
USAF

PROCUREMENT SPECIFICATION
FF-B-185

TITLE

BEARINGS, ROLLER, CYLINDRICAL, SINGLE ROW OF ROLLERS,
TWO ROLLER RETAINING RIBS ON INNER RING, TWO ROLLER
RETAINING RIBS ON OUTER RING, TWO DIRECTION LOCATING.

SUPERSEDES:

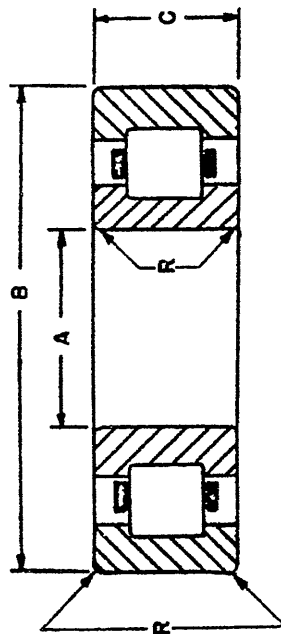
MILITARY STANDARD

MS 19079

SHEET 1 OF 2

FED. SUP CLASS
3110

THE CORNER RADIUS OR CHAMFER ON BOTH
SIDES OF BEARING MUST CLEAR THE SHAFT AND
HOUSING FILLET RADIUS LISTED IN THE
TABLE BELOW



MS PART NO	FI IN	A INSIDE DIA		B OUTSIDE DIA		C WIDTH		R SHAFT & HOUSING FILLET RADIUS	RECOMMENDED DIAMETER		INTERNAL CLEARANCE *0.001 INCH		BASIC DYNAMIC LOAD RATING	BASIC STATIC LOAD RATING	RECOMMENDED LIMITING SPEED	EST WEIGHT
		MM	INCH	MM	INCH	MM	INCH		SHAFT	HOUSING	MIN	MAX				
MS19079 - 1		17	.6693	40	1.5748	12	.4724	.025	.04	1.44	4	16	1750	1550	3750	.13
MS19079 - 2		17	.6693	47	1.8504	14	.5512	.040	.30	1.67	4	16	2600	2350	7800	.32
MS19079 - 3		20	.7874	52	2.0472	15	.5906	.040	1.02	1.97	4	16	3300	2600	6950	.37
MS19079 - 4		25	.9843	62	2.4429	15	.5906	.040	1.22	1.86	4	18	2000	1850	6500	.54
MS19079 - 5		25	.9843	62	2.4409	17	.6693	.040	1.25	2.20	4	18	4350	3300	5600	.54
MS19079 - 6		30	1.1811	62	2.4409	16	.6299	.040	1.42	2.24	4	18	3600	3400	5500	.57
MS19079 - 7		30	1.1811	72	2.8346	19	.7480	.040	1.50	2.55	4	18	5700	4450	5000	.96
MS19079 - 8		35	1.3750	72	2.8346	17	.6693	.040	1.66	2.61	6	20	5150	4200	4700	.76
MS19079 - 9		35	1.3750	80	3.1496	21	.8268	.060	1.73	2.63	6	20	6950	5500	4350	1.29
MS19079 - 10		40	1.5748	80	3.1496	18	.7087	.040	1.87	2.88	6	20	6750	5550	4200	.93
MS19079 - 11		40	1.5748	90	3.5433	23	.9055	.060	1.94	3.19	5	20	8430	6700	3850	1.74
MS19079 - 12		45	1.7717	85	3.3465	19	.7480	.040	2.08	3.05	8	22	7100	6000	3850	1.15
MS19079 - 13		45	1.7717	100	3.9370	25	.9843	.060	2.20	3.54	8	22	12300	9800	3450	2.32
MS19079 - 14		50	1.9685	110	4.3307	27	1.0630	.080	2.42	3.90	8	22	14700	12300	3150	3.04
MS19079 - 15		55	2.1654	100	3.9370	21	.8268	.060	2.52	3.60	8	26	8600	7450	3250	1.71
MS19079 - 16		55	2.1654	120	4.7244	29	1.1417	.080	2.65	4.25	8	26	16800	13700	2850	3.36
MS19079 - 17		60	2.3622	110	4.3307	22	.8661	.060	2.73	3.96	8	26	10700	9000	2950	2.29
MS19079 - 18		60	2.3622	130	5.1191	31	1.2205	.090	2.89	4.61	8	26	18700	15300	2600	4.92
MS19079 - 19		65	2.5591	120	4.7244	23	.9055	.060	3.00	4.32	8	26	11400	10400	2700	2.53
MS19079 - 20		65	2.5591	140	5.5118	33	1.2992	.080	3.11	4.96	8	26	21000	17100	2400	5.99
MS19079 - 21		70	2.7559	125	4.9213	24	.9449	.060	3.19	4.50	10	30	11400	10400	2550	3.02
MS19079 - 22		70	2.7559	150	5.9055	35	1.3780	.080	3.32	5.31	10	30	23200	19000	2280	7.47
MS19079 - 23		75	2.9528	130	5.1181	25	.9843	.060	3.37	4.68	10	30	13900	12600	2400	3.32
MS19079 - 24		75	2.9528	160	6.2992	37	1.4557	.080	3.57	5.67	10	30	27700	23200	2100	8.55
MS19079 - 25		80	3.1496	140	5.5118	26	1.0236	.080	3.60	5.05	10	30	15400	13800	2250	3.32
MS19079 - 26		80	3.1496	170	6.6929	39	1.5354	.080	3.79	5.02	10	30	27700	23200	1950	13.47
MS19079 - 27		85	3.3465	150	5.9055	28	1.1024	.080	3.85	5.40	12	32	18100	16100	2100	5.00
MS19079 - 28		85	3.3465	180	7.0366	41	1.6142	.100	4.04	6.38	12	32	33400	27700	1950	12.26
MS19079 - 29		90	3.5433	190	7.4803	43	1.6929	.100	4.25	6.73	12	32	35000	28600	1750	14.21
MS19079 - 30		95	3.7402	200	7.8740	45	1.7717	.100	4.54	7.09	12	32	41000	34500	1650	16.94
MS19079 - 31		100	3.9370	215	8.4546	47	1.8504	.100	4.83	7.62	12	32	47800	40250	1550	19.50

APPROVED 80 APR 1953 REVISED

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P.A. NORD		TITLE		MILITARY STANDARD	
Other Cust ORD USAF		BEARINGS, ROLLER, CYLINDRICAL, SINGLE ROW OF ROLLERS, TWO ROLLER RETAINING RIBS ON INNER RING, TWO ROLLER RETAINING RIBS ON OUTER RING, TWO DIRECTION LOCATIONS.		MS 19079	
PROCUREMENT SPECIFICATION FF-B-135	SUPERSEDES:			SHEET 2 OF 2	

TOLERANCES: STANDARD GRADE (TOLERANCES IN .0001 INCH).									
INNER RING					OUTER RING				
BORE DIA	A		RADIAL RUNOUT		OD DIA	B		RADIAL RUNOUT	
	OVER	UNDER	MIN	MAX		OVER	UNDER	MIN	MAX
0	10	-3	+0	3	0	18	+0	-4	6
10	18	-3	+0	4	15	30	+0	-4	6
18	30	-4	+0	5	30	50	+0	-5	8
30	50	-5	+0	6	50	80	+0	-5	10
50	80	-5	+0	8	80	120	+0	-6	14
80	120	-8	+0	10	120	150	+0	-8	16
120	150	-10	+0	12	150	180	+0	-10	18
150	180	-12	+0	16	180	250	+0	-12	20
180	250	-12	+0	16	250	315	+0	-14	24
					315	400	+0	-16	28

NOMINAL BORE DIA			WIDTH		
OVER	UNDER	MAX	OVER	UNDER	MAX
0	180	0	50		

THE TOLERANCE FOR WIDTH APPLIES TO INDIVIDUAL RINGS.

MATERIAL: RINGS AND ROLLERS; ALLOY STEEL, FED. STD. 66 STEEL No's., 4320, 4620, 8620 OR E52100. CAGE; BRASS, BRONZE OR STEEL (MACHINED).

HARDNESS: RINGS AND ROLLERS; 58 RC. TO 66 RC.

DIMENSIONS: UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.

LUBRICATION: THE IDENTIFYING NUMBER DOES NOT INCLUDE LUBRICATION.

BASIC DYNAMIC LOAD RATING: BASIC DYNAMIC LOAD RATING IS THAT CONSTANT STATIONARY RADIAL LOAD WHICH A GROUP OF APPARENTLY IDENTICAL BEARINGS WITH STATIONARY OUTER RING CAN ENDURE FOR A RATING LIFE OF ONE MILLION REVOLUTIONS OF THE INNER RING.

RATING LIFE (HOURS): RATING LIFE IS THE NUMBER OF HOURS AT SOME CONSTANT SPEED OF THE INNER RING THAT 90 PER CENT OF A GROUP OF APPARENTLY IDENTICAL BEARINGS WILL COMPLETE OR EXCEED BEFORE THE FIRST EVIDENCE OF FATIGUE DEVELOPS.

THE MAGNITUDE OF THE APPROXIMATE RATING LIFE IN HOURS, H , IS FOUND FROM THE FORMULA:

$$H = \frac{16667}{R} \left(\frac{C}{P} \right)^{\frac{10}{3}}$$

WHERE C = BASIC DYNAMIC LOAD RATING
 P = EQUIVALENT LOAD (COMBINED RADIAL AND SHAFT LOCATION LOAD)
 R = REVOLUTIONS PER MINUTE

AVERAGE LIFE IS APPROXIMATELY FIVE TIMES THE RATING LIFE.

BASIC STATIC LOAD RATING: BASIC STATIC LOAD RATING IS THE MAXIMUM STATIC RADIAL LOAD WHICH WILL PRODUCE A PERMANENT DEFORMATION IN THE RACE AND ROLLERS, COMBINED AT ANY ONE CONTACT POINT, OF NOT MORE THAN .0001 OF THE ROLLER DIAMETER.

OPERATING TEMPERATURE: RECOMMENDED OPERATING TEMPERATURE NOT TO EXCEED 250 DEGREES FAHRENHEIT.

LIMITING RPM: LIMITING RPM IS THE RECOMMENDED SAFE DESIGN SPEED FOR NORMAL OPERATING CONDITIONS WITH GREASE LUBRICATION (INNER RING ROTATING).

NOTES: (A) THIS STANDARD TAKES PRECEDENCE OVER DOCUMENTS REFERRED HEREIN.
 (B) REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID.

APPROVED 30 APR 1959 REVISED