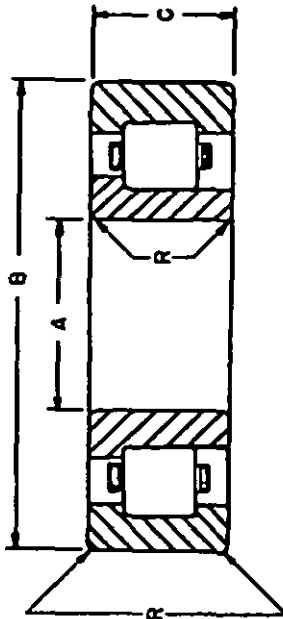


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THE CORNER RADIUS ON SHAFT OR BOTH SIDES OF THE BEARING MUST CLEAR THE SHAFT AND HOUSING FILLET RADIUS LISTED IN THE TABLE BELOW

FED. SUP CLASS
3110

MS PART NO	FIN	A INSIDE DIA	B OUTSIDE DIA	C WIDTH	R SHAFT & HOUSING FILLET RADIUS	RECOMMENDED SHAFT DIAMETER		INTERNAL RADIAL CLEARANCE - .0001 INCH	STATIC LOAD RATING	DYNAMIC LOAD RATING	RECOMMENDED LIMITING SPEED	EST WEIGHT
						SHAFT	HOUSING					
MS19078 - 1	17	.6233	40	.4724	.029	.04	1.44	4	1400	2500	8750	.19
MS19078 - 2	17	.6233	47	.5312	.040	.00	1.67	4	1500	2500	15000	.32
MS19078 - 3	20	.7874	52	.5905	.040	1.02	1.82	4	1600	3500	25000	.37
MS19078 - 4	25	.9943	62	.70472	.040	1.22	1.08	4	1800	3000	35000	.43
MS19078 - 5	25	.9943	62	.70472	.040	1.25	2.20	4	2000	5100	60000	.64
MS19078 - 6	30	1.1811	62	.8299	.040	1.42	2.24	4	2300	4950	55000	.57
MS19078 - 7	30	1.1811	72	.8346	.040	1.50	2.55	4	2700	6750	50000	.53
MS19078 - 8	35	1.3780	72	.8346	.040	1.08	2.61	6	3450	9000	47000	.76
MS19078 - 9	35	1.3780	80	.9263	.060	1.73	2.63	6	2000	6250	43500	1.29
MS19078 - 10	40	1.5748	80	.9263	.040	1.87	2.69	6	2000	7050	42500	.52
MS19078 - 11	40	1.5748	90	.9053	.060	1.04	3.19	6	6350	10300	32500	1.74
MS19078 - 12	45	1.7717	85	.9465	.040	2.05	3.06	6	5000	9250	32500	1.71
MS19078 - 13	45	1.7717	100	.9043	.060	2.20	3.54	6	9250	14200	34500	2.52
MS19078 - 14	50	1.9655	110	1.0810	.030	2.42	3.00	6	11700	17000	31500	3.04
MS19078 - 15	55	2.1654	100	.9263	.060	2.52	3.60	6	6700	10300	32500	1.71
MS19078 - 16	55	2.1654	120	1.1417	.030	2.05	4.25	6	13500	20700	27500	3.55
MS19078 - 17	60	2.3622	110	.9263	.060	2.73	3.06	6	12500	18500	25500	2.23
MS19078 - 18	60	2.3622	130	1.1811	.060	2.05	4.61	6	23000	33000	25000	4.32
MS19078 - 19	65	2.5581	120	1.0810	.060	3.00	4.32	6	14500	21500	27000	2.03
MS19078 - 20	65	2.5581	140	1.2592	.060	3.11	4.96	6	25500	37500	24500	5.02
MS19078 - 21	70	2.7559	125	1.0810	.060	3.19	4.90	10	14000	20700	25500	3.52
MS19078 - 22	70	2.7559	150	1.3700	.030	3.32	5.31	10	30100	43000	23500	7.47
MS19078 - 23	75	2.9528	130	1.0810	.060	3.37	4.68	10	17000	24000	24000	3.22
MS19078 - 24	75	2.9528	160	1.5687	.030	3.57	5.67	10	33000	46000	21000	8.55
MS19078 - 25	80	3.1496	140	1.0810	.060	3.63	5.05	10	18500	26500	22500	3.62
MS19078 - 26	80	3.1496	170	1.5394	.060	3.70	6.02	10	35500	50000	19500	10.47
MS19078 - 27	85	3.3465	150	1.0810	.030	3.65	5.40	12	22000	31000	21000	5.00
MS19078 - 28	85	3.3465	180	1.6142	.100	4.04	6.38	12	42000	58000	18500	12.26
MS19078 - 29	90	3.5433	160	1.1811	.080	4.05	5.76	12	28000	39000	19500	5.96
MS19078 - 30	90	3.5433	190	1.6829	.100	4.25	6.73	12	46500	64000	17500	14.21
MS19078 - 31	95	3.7402	170	1.2592	.030	4.29	6.12	12	31400	43000	22500	7.16
MS19078 - 32	95	3.7402	200	1.7717	.100	4.54	7.09	12	53000	73000	16500	16.34
MS19078 - 33	100	3.9370	180	1.3386	.050	4.56	6.40	12	34500	47000	17500	8.02

APPROVED 30 APR 1958, REVISED

P.A. N0no Other Cast and USAF	TITLE BEARINGS, ROLLER, CYLINDRICAL, SINGLE ROW OF ROLLERS, OIL COLLET RETAINING DISC ON INNER RING, FOR ROLLER RETAINING RINGS ON OUTER RING, ONE DIRECTION LOCATING.	MILITARY STANDARD MS 19078
PROCUREMENT SPECIFICATION FF-111CS	SUPERSEDES:	SHEET 1 OF 3

DD FORM 672-1

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

FED. SUP CLASS
3110

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P.A. NO	Other Cust ORD USAF	FILLIN	A		B		C		R SHAFT & HOUSING FILLET RADIUS	RECOMMENDED		INTERNAL RADIAL CLEARANCE "0001 INCH	BASIC DYNAMIC LOAD RATING LBS	BASIC STATIC LOAD RATING LBS	RECOMMENDED LIMITING SPEED RPM	EST HEIGHT INCHES	
			INSIDE DIA	OUTSIDE DIA	WIDTH	SHAFT DIAMETER	HOUSING	MIN		MAX							
MS19078 - 34			100	3.9370	215	8.4646	47	1.8504	.100	4.83	7.62	12	32	61500	45800	1500	19.50
MS19078 - 35			105	4.1339	190	7.4803	36	1.4173	.080	4.77	6.64	14	35	38000	30000	1500	16.32
MS19078 - 36			105	4.1339	225	8.8583	49	1.9291	.100	5.05	7.97	14	35	68700	52400	1450	22.93
MS19078 - 37			110	4.3307	200	7.8740	38	1.4981	.080	5.01	7.20	14	35	45000	34000	1550	11.81
MS19078 - 38			110	4.3307	240	9.4488	50	1.9685	.100	5.37	8.50	14	35	79100	60300	1350	27.35
MS19078 - 39			120	4.7244	215	8.4646	40	1.5748	.080	5.47	7.74	14	35	49500	37500	1450	14.70
MS19078 - 40			120	4.7244	260	10.2362	55	2.1554	.100	5.82	9.21	14	35	93400	71100	1150	35.00
MS19078 - 41			130	5.1181	280	11.0236	58	2.2835	.120	6.32	9.92	18	41	10000	80100	950	43.95
MS19078 - 42			150	5.9055	320	12.5984	65	2.5591	.120	7.11	11.34	18	45	133000	106000	950	62.00
PROCUREMENT SPECIFICATION FF-D-105																	
TITLE																	

P.A. NORD
Other Cust
ORD
USAF

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

PROCUREMENT SPECIFICATION
FF-D-105

SUPERSEDES:

MILITARY STANDARD
MS 19078

SHEET 2 OF 8

APPROVED 30 APR 1958 REVISED

TOLERANCES: STANDARD GRADE (TOLERANCES IN .0001 INCH).

INNER RING			
CODE IN.	A	RADIAL RUNOUT	MAX
OVER	INCL	MIN	MAX
0	10	-3	+0
10	10	-3	+0
10	30	-4	+0
10	50	-5	+0
50	50	-6	+0
50	60	-6	+0
120	120	-8	+0
120	180	-10	+0
120	250	-12	+0

OUTER RING			
CODE IN.	3	RADIAL RUNOUT	MAX
OVER	INCL	MIN	MAX
0	10	+0	-4
10	30	+0	-4
30	50	+0	-5
50	50	+0	-5
50	60	+0	-6
120	120	+0	-8
120	180	+0	-10
120	220	+0	-12
250	315	+0	-14
315	400	+0	-16

TOLERANCE			
ADDITIONAL EDGE	INCL	MAX	MIN
OVER	0	180	0

THE TOLERANCES FOR 10TH APPLIES TO INDIVIDUAL RINGS.

MATERIALS:

HARDNESS:

FINISHES:

LUBRICATION:

BASIC DYNAMIC LOAD RATING:

LIFTING LIFE (HOURS):

RINGS AND ROLLERS: ALLOY STEEL, FED. STD. 55 STEEL IN'S., 4320, 4340, 4350, 4350, 4350, 4350 OR 52100. CASES: BRASS, BRONZE OR STEEL (MACHINED).

RINGS AND ROLLERS: 50 HRC. TO 55 HRC.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.

THE IDENTIFYING NUMBER DOES NOT INCLUDE LUBRICATION.

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 AT THE INNER RING.

RATING LIFE IS THE NUMBER OF HOURS AT ONE CONSTANT SPEED OF THE INNER RING THAT 50 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:

$$H = \frac{10^6}{N} \left(\frac{P}{C} \right)^{\frac{10}{3}}$$

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

AVERAGE LIFE IS APPROXIMATELY FIVE TIMES THE RATING LIFE.

BASIC STATIC LOAD RATING:

OPERATING TEMPERATURE:

LIMITING RPM:

NOTES:

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.

RECOMMENDED OPERATING TEMPERATURE NOT TO EXCEED 250 DEGREES FAHRENHEIT.

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

(1) THIS STANDARD TAKES PRECEDENCE OVER COMMENTS REFERRED HEREIN.

(2) REVERSED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID.

APPROVED 30 APR 1959 REVISED

P.A. 100
Order Cost
C.O.
L.C.F.

TITLE

BEARINGS, ROLLER, CYLINDRICAL, SINGLE ROW, OF ROLLERS,
ONE ROLLER RETAINING RING, ONE INNER RING, TWO ROLLER
RETAINING RINGS, OR OUTER RING, ONE DIRECTION LOCATION.PROCUREMENT SPECIFICATION
FF-3-183

SUPERSEDES.

DD FORM 672-1

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

MILITARY STANDARD
MS 19078

SHEET 1 OF 3

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