

NOTE:—When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement, the user, the United States Government thereby in an responsibility for any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

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

FED. SUP CLASS
3110

MS PART NO	FIN	A		B		C		R	RECOMMENDED		INTERNAL		BASIC DYNAMIC LOAD RATING	BASIC STATIC LOAD RATING	RECOMMENDED LIMITING SPEED	EST HEIGHT
		MM	INCH	MM	INCH	MM	INCH		SHAFT	DIAMETER	MIN	MAX				
MS19075 - 34		100	3.9370	215	8.4846	47	1.8504	.100	4.83	7.62	12	32	61500	45900	1300	19.50
MS19075 - 35		105	4.1339	190	7.4803	36	1.4173	.080	4.77	6.84	14	35	38000	30000	1250	16.32
MS19075 - 36		105	4.1339	225	8.8583	49	1.9291	.100	5.05	7.87	14	35	69700	52400	1250	22.95
MS19075 - 37		110	4.3307	200	7.8740	38	1.4961	.080	5.01	7.20	14	35	45000	34000	1300	11.31
MS19075 - 38		110	4.3307	240	9.4488	50	1.9685	.100	5.37	8.50	14	35	79100	60300	1150	27.38
MS19075 - 39		120	4.7244	215	8.4846	40	1.5749	.080	5.47	7.74	14	35	49500	37500	1250	14.70
MS19075 - 40		120	4.7244	260	10.2362	55	2.1854	.100	5.82	9.21	14	35	83400	71100	9750	35.00
MS19075 - 41		130	5.1181	280	11.0236	59	2.3635	.120	6.32	9.82	16	41	119000	90100	300	43.25
MS19075 - 42		150	5.9055	320	12.5984	65	2.5591	.120	7.11	11.34	16	45	113000	106000	500	63.00

P. A. NORD
Other Cust
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USAF

TITLE

BEARINGS, ROLLER, CYLINDRICAL, SINGLE ROW OF ROLLERS,
CYLINDRICAL INNER RING, TWO ROLLER RETAINING SNAP RINGS
ON OUTER RING, NON-LOCATING.

MILITARY STANDARD

MS 19075

PROCUREMENT SPECIFICATION
FF-B-185

SUPERSEDES:

SHEET 2 OF 3

APPROVED 80 APR 1959 REVISED

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TOLEANCES: STANDARD GAUGE (TOLERANCES IN .0001 INCH)

INNER RING			RADIAL RUNOUT
BORE IN - DIA	A		
OVER	INCL	MIN	MAX
0	10	-3	3
10	18	-3	4
18	30	-4	5
30	50	-5	6
50	80	-6	8
80	120	-8	10
120	180	-10	12
180	250	-12	15

OUTER RING			RADIAL RUNOUT
OD IN - DIA	B		
OVER	INCL	MIN	MAX
0	18	-4	6
18	30	-4	6
30	50	-5	8
50	80	-6	10
80	120	-8	14
120	180	-10	18
180	250	-12	20
250	315	-14	24
315	400	-16	28

WIDTH			C
NOMINAL BORE IN - DIA	OVER	INCL	
0	180	0	50

THE TOLERANCES FOR WIDTH APPLIES TO INDIVIDUAL RINGS.

MATERIAL: RINGS AND ROLLERS; ALLOY STEEL, FED. STD. 66 STEEL No's., 4320, 4620, 5620 OR E52100. CASE; CARBON STEEL (ONE PIECE STRIPPED).

HARDNESS: RINGS AND ROLLERS; 50 RC. TO 58 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:

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

WHERE C = BASIC DYNAMIC LOAD RATING
 P = EQUIVALENT LOAD (COMBINED RADIAL AND SHAFI 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 FARENHEIT.

LIMITING RPM:

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

NOTES:

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

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

MILITARY STANDARD

MS 19075

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