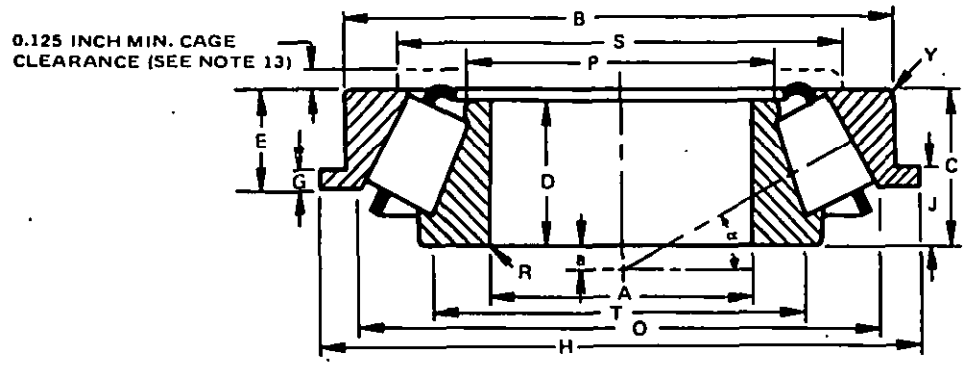
This military standard is approved for use by all Departments and Agencies of the Department of Defense. Selection for all new engineering and design applications and for repetitive use shall be made from this document.

REVIEWER ACTIVITIES MI, IS, NS

USER ACTIVITIES: MC, AV, SA



Dash No.	AFBMA (A) bearing number (see note 12) Cone	Cup	A Bore	B Outside dia	C Bearing width	D Cone width	E (A) Cup width	J Stand-out	R (A) Max shaft fillet radius	Y (A) Max housing fillet radius	H Flange Dia	G Flange Width	T φ Recommended shoulder diameter Shaft	P Shaft	S Housing	O Housing	K factor	Basic dynamic load ratings (lb) (A) Radial	Thrust	a (A) Effective load center
* 1	21075	21212B	0.7500	2.1250	0.8750	0.8598	0.6250	0.4062	0.06	0.09	2.2772	0.1562	1.24	1.04	1.69	2.05	0.99	1710	1730	-0.23
2	23100	23256B	1.0000	2.5625	0.8750	0.8450	0.6250	0.4063	0.06	0.06	2.7147	0.1563	1.54	1.36	2.09	2.48	0.80	2050	2560	-0.09
* 3	41126	41286B	1.1250	2.8593	0.9688	0.9550	0.6875	0.5000	0.06	0.06	3.0741	0.2187	1.63	1.45	2.40	2.76	0.97	2550	2620	-0.16
4	43132	43312B	1.3125	3.1250	1.0000	0.9478	0.6875	0.5313	0.08	0.06	3.3390	0.2188	1.89	1.66	2.64	3.03	0.87	2880	3320	-0.08
5	44162	44348B	1.6250	3.4843	1.0000	0.9330	0.6875	0.5312	0.09	0.06	3.6983	0.2187	2.24	2.00	2.95	3.39	0.75	3180	4250	0.09
* 6	53176	53387B	1.7500	3.8750	1.2188	1.1142	0.8125	0.6563	0.05	0.03	4.1210	0.2500	2.32	2.08	3.23	3.62	0.79	3850	4900	-0.01
7	55206	55437B	2.0625	4.3750	1.1875	1.0594	0.8125	0.5938	0.14	0.13	4.5938	0.2188	2.83	2.52	3.62	4.21	0.66	4150	6300	0.28
8	66225	66462B	2.2500	4.6250	1.3125	1.2500	0.9375	0.6250	0.14	0.13	4.8750	0.2500	2.99	2.71	3.94	4.45	0.93	5750	6200	-0.01
* 9	HM911249	HM911210B	2.4375	5.1250	1.4375	1.3125	0.9375	0.7500	0.14	0.13	5.3750	0.2500	3.35	2.93	4.29	4.87	0.71	6500	9200	0.21
10	98400	98788B	4.0000	7.8740	2.0772	1.9375	1.3750	1.0772	0.14	0.13	8.2500	0.3750	5.04	4.76	6.85	7.40	0.92	16500	17900	0.05

*Inactive for new design after 20 Mar 1978.

For NOTES See pages 2 and 3.

(A) denotes changes

APPROVED 30 Apr 1959 REVISED (A) 20 Mar 1978

FED. SUP CLASS 3110

P.A. OS Other Cust AT 11

INTERNATIONAL INTEREST

PROCUREMENT SPECIFICATION FF-B-187

SUPERSEDES:

TITLE BEARING, ROLLER, TAPERED, SINGLE ROW OF ROLLERS, STEEP ANGLE, FLANGED CUP, TYPE 759 (TSSF)

MILITARY STANDARD

MS19084

SHEET 1 OF 3

DD FORM 672-1 (OBSOLETE)

3110-0515

REVIEWER ACTIVITIES: MI, IS, NS

USER ACTIVITIES: MC, AV, SA

NOTES:

Ⓐ 1. MATERIAL: Cones, cups, and rollers: bearing quality - carburizing grade alloy or through-hardening grade alloy steel in accordance with FED-STD-66. Cage; carbon steel (one piece stamped).

Ⓐ 2. HARDNESS: Cones, cups and rollers: 58 to 64 Rockwell C.

3. TOLERANCES: Standard grade (AFBMA Class 4) (allowable tolerances are in 0.0001 inch).

Cone bore (A)			
Size range Ⓐ		Tolerance	
Over	Incl.	Plus	Minus
0	3.0000	5	0
3.0000	6.0000	10	0

Cup diameter (B)			
Size range		Tolerance	
Over	Incl.	Plus	Minus
0.0000	12.0000	10	0
12.0000	24.0000	20	0

Ⓐ Standout (J)			
Bore size range		Tolerance	
Over	Incl.	Plus	Minus
0	4.0000	80	0
4.0000	6.0000	140	100

Ⓐ

Cup flange OD (H)			
Size range		Tolerance	
Over	Incl.	Plus	Minus
0	12.0000	20	0

Assembled bearing maximum radial runout		
Cup OD (B)		Tolerance
Over	Incl.	
0	24.0	20

4. DIMENSIONS: All dimensions are in inches. Dimensions T, P, S, and O are recommended shaft and housing shoulder diameters.
Ⓐ Dimensions R and Y are the maximum fillet radii on the shaft and the housing respectively, which will be cleared by the bearing corners.

Ⓐ 5. EFFECTIVE LOAD CENTER: Dimension (a) locates a point on the cone axis which is the center of pressure of all resisting forces set up by the bearing rollers. All moments should be calculated from this point when determining bearing loading and shaft stresses. A minus value of (a) indicates that the center is inside the cone backface.

6. OPERATING TEMPERATURE: Recommended operating temperature not to exceed 121° Celsius (250° Fahrenheit).

Ⓐ 7. LUBRICATION: Bearings shall be furnished without lubrication. Bearings shall be furnished with preservative per MIL-C-11796, Class 3.

Ⓐ 8. BASIC DYNAMIC LOAD RATING: Basic dynamic load rating is that constant stationary load which a group of apparently identical bearings with stationary cups (outer rings) can endure for a rating life of 90 million revolutions of the cone (inner ring). The basic dynamic load ratings listed herein are based on a rated life of 90 million revolutions or 3000 hours at 500 rpm.

FED. SUP CLASS 3110

APPROVED 30 Apr 1959 REVISED Ⓐ. For changes see sheets 1 through 3

P. A. OS
Other Cust AT 11
INTERNATIONAL INTEREST
TITLE BEARING, ROLLER, TAPERED, SINGLE ROW OF ROLLERS, STEEP ANGLE, FLANGED CUP, TYPE 759 (TSSF)
PROCUREMENT SPECIFICATION FF-B-187
SUPERSEDES:

MILITARY STANDARD
MS19084
SHEET 2 OF 3

DD FORM 672-1 COMMON STOCK

3110-0515

Ⓐ 9. RATING LIFE (HOURS): Rating life is the number of hours at some constant speed of the cone (inner ring) that 90 percent of a group of apparently identical bearings will complete or exceed before first evidence of fatigue develops. The magnitude of the rated life in hours is found from the following:

$$L_{10} = \frac{1.5 \times 10^6}{R}\left(\frac{C}{P}\right)^{10/3} \text{ hours}$$

where:

C = Basic dynamic load rating, lb.
P = Equivalent load (combined radial and thrust load), lb.
R = Revolutions per minute.

10. K FACTOR: The K factor is the ratio of the basic radial dynamic load rating to basic thrust dynamic load rating.

11. STEEP ANGLE: A steep angle bearing has a contact angle (α) between 22 and 31 degrees. The contact angle is the angle between the line of action of the roller load and a plane perpendicular to the bearing axis.

Ⓐ 12. PART NUMBER: The MS part number consists of the MS number, plus the dash number. Example: MS19082-8. The AFBMA (Anti-Friction Bearing Manufacturers Association) cup and cone numbers are for reference only and are not to be used for ordering purposes.

Ⓐ 13. CAGE CLEARANCE: Designers should provide a clearance of .125 inch minimum between the outside edge of the cage and the housing counterbore.

14. For design feature purposes, this standard takes preference over procurement documents referenced herein.

15. Referenced documents shall be of the issue in effect on the date of invitation for bid or request for proposal.