

FED. SUP CLASS
3120

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AIR FORCE - 84
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TABLE I. DIMENSIONS AND DASH NUMBERS. CONTINUED.

NOMINAL ID	5/16						3/8					
	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS
A-BASIC ID												
R-RADIUS (MAX)												
R-BASIC OD												
D-FLANGE OD												
E-FLANGE THK												
C LENGTH												
1/4	33	485	—	—	—	—	—	—	—	—	—	—
5/16	34	645	—	—	—	—	—	—	—	—	—	—
3/8	35	805	—	—	—	—	—	—	—	—	—	—
13/32	—	—	—	—	—	—	—	—	—	—	—	—
7/16	36	970	—	—	—	—	—	—	—	—	—	—
1/2	37	1130	—	—	—	—	—	—	—	—	—	—
5/8	38	1450	—	—	—	—	—	—	—	—	—	—
3/4	—	—	—	—	—	—	—	—	—	—	—	—

P. A. Other Cust	OS AT 99	INTERNATIONAL INTEREST	TITLE BEARING, SLEEVE, FLANGED, SINTERED BRONZE, OIL IMPREGNATED	MILITARY STANDARD MS 17796
PROCUREMENT SPECIFICATION MIL-B-5687			SUPERSEDES:	SHEET 2 OF 7

DD FORM 672-1 (COORDINATED)

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TABLE I. DIMENSIONS AND DASH NUMBERS. CONTINUED.

NOMINAL ID	7/16		1/2				5/8				3/4			
	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO
A-BASIC ID			0.4395		0.502		0.627		0.752		0.879		1.004	
R-RADIUS (MAX)			3/64		3/64		3/64		3/64		3/64		3/64	
R-BASIC OD			0.565		0.628		0.753		0.879		1.004		1.004	
D-FLANGE OD	11/16	3/4	7/8	15/16	1-0	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8
R-FLANGE THK	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8
C LENGTH	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO
3/8	1130	58	1200	63	1300	66	1400	69	1500	72	1600	75	1700	78
7/16	1360	59	1550	64	1650	67	1750	70	1850	73	1950	76	2050	79
1/2	1595	60	1810	65	2000	68	2150	71	2300	74	2450	77	2600	80
9/16	2035	61	2325	66	2600	69	2850	72	3100	75	3350	78	3600	81
5/8	2490	62	2840	67	3250	70	3600	73	3950	76	4300	79	4650	82
3/4														
7/8														
1-0														
1-1/8														
1-1/4														

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TABLE I. DIMENSIONS AND DASH NUMBERS. CONTINUED.

NOMINAL ID	7/8	1-0	1-1/4	1-1/2
A-BASIC ID	0.877	1.003	1.2535	1.504
R-RADIUS (MAX)	3/64	3/64	1/16	3/64
B-BASIC OD	1.004	1.254	1.504	1.755
D-FLANGE OD	1-1/4	1-1/2	1-3/4	2-0
P-FLANGE THK	3/16	1/8	3/16	3/16
C LENGTH	5/8 3/4 1-0 1-1/4 1-1/2 1-3/4 2-0 2-1/4 2-1/2	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8
DASH NO	198 199 200 201 202 203 204	205 206 207 208 209 210 211 212 213 214	215 216 217 218 219 220 221 222 223 224	225 226 227 228 229 230 231 232 233 234
STAT CAP LBS	4060 5865 5155 7220 9280 11345 11730	4640 6705 8760 10770 12895 14955 16995 18995 20995	8390 10460 12540 14620 16700 18780 20860 22940 25020 27100	28390 30470 32550 34630 36710 38790 40870 42950 45030 47110

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TABLE I. DIMENSIONS AND DASH NUMBERS. CONTINUED.

NOMINAL ID	1-3/4	2-0	2-1/2	3-0								
A-BASIC ID	1.754	2.004	2.505	3.006								
R-RADIUS (MAX)	3/32	1/16	3/32	3/32								
B-BASIC OD	2.254	2.254	2.505	3.507								
D-FLANGE OD	3-0	2-1/2	3-1/4	3-3/4								
E-FLANGE THK	1/4	1/8	1/4	1/4								
C LENGTH	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS	DASH NO	STAT CAP LBS				
1-3/4	132	21660	224	30935	226	28875	228	36675	231	36095	234	55685
2-0	133	25270	—	—	—	—	—	—	—	—	—	—
2-1/2	134	32495	—	—	—	—	—	—	—	—	—	—
3-0	135	39705	225	47440	227	45375	229	59295	232	56720	236	68060
3-1/2	—	—	—	—	—	—	—	—	—	—	—	80435
4-0	—	—	—	—	—	—	—	230	79920	233	77345	92810
4-1/2	—	—	—	—	—	—	—	—	—	—	238	1105185
5-0	—	—	—	—	—	—	—	—	—	—	239	1177560

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TABLE II. DIMENSIONAL TOLERANCES.

DIMENSION	BEARING SIZE	TOLERANCE
INSIDE DIAMETER "A" AND OUTSIDE DIAMETER "B"	UP TO 1.510 ID INCL	+ .000 - .001
	1.511 TO 2.510	+ .0000 - .0015
	2.511 TO 3.010	+ .000 - .002
	3.011 TO 3.507	+ .000 - .003
FLANGE OUTSIDE DIAMETER "D"	UP TO 1.510 FLANGED OD INCL.	+ .005 - .005
	1.511 TO 3.010	+ .010 - .010
FLANGE THICKNESS "E"	3.011 TO 3.750	+ .025 - .025
	UP TO 1.510 FLANGED OD	+ .005 - .005
	1.511 TO 3.010 FLANGED OD	+ .010 - .010
LENGTH "C"	3.011 TO 3.750 FLANGED OD	+ .015 - .015
	UP TO 1.495 INCL.	+ .005 - .005
	1.496 TO 2.990	+ .0075 - .0075
	2.991 TO 4.985	+ .010 - .010
CONCENTRICITY FULL INDICATOR MOVEMENT (FIM)	OUTSIDE DIAMETER (BASIC)	TOLERANCES
	UP TO 1.510 1.511 TO 2.010 2.011 TO 3.507	0.003 0.004 0.005

TABLE III. CHAMFERS.

RANGE	SIZE
WALL THICKNESS UP TO AND INCLUDING 3/32"	BREAK EDGES
WALL THICKNESS GREATER THAN 3/32" UP TO 3" OUTSIDE DIAMETER	1/64 INCH x45 DEGREES
ALL BEARINGS 3" OUTSIDE DIAMETER AND OVER	1/32 INCH x45 DEGREES

TABLE IV. SHAFT RUNNING CLEARANCE.

SHAFT SIZE	CLEARANCE MIN
UP TO 0.760	0.0005
0.761 TO 1.510	0.0010
1.511 TO 2.510	0.0015
OVER 2.510	0.0020

TABLE V. RECOMMENDED PRESS FITS.

OUTSIDE DIAMETER "B"	PRESS FITS	
	MAX	MIN
UP TO 0.760	0.003	0.001
0.760 TO 1.510	0.004	0.0015
1.511 TO 2.510	0.005	0.002
2.511 TO 3.010	0.006	0.002
OVER 3.010	0.007	0.002

TABLE VI. PERMISSIBLE LOAD RATINGS.

SHAFT VELOCITY (FEET PER MINUTE)	PERMISSIBLE LOAD (POUNDS PER SQUARE INCH)
SLOW AND INTERMITTENT	4000
25	2000
26 TO 50 INCL	1000
51 TO 100 INCL	500
101 TO 150 INCL	325
151 TO 200 INCL	250
OVER 200	SEE REQUIREMENT 9

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REQUIREMENTS:

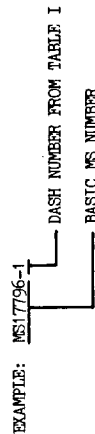
1. THESE BEARINGS ARE NOT INTENDED FOR BEARING ON ASSEMBLY.
2. MATERIAL: SINTERED, COPPER BASE, POWDERED METAL IN ACCORDANCE WITH MIL-B-5687. TYPE I, GRADE 1 OR 2. YIELD STRENGTH IN COMPRESSION, 11,000 PSI (MIN) FOR 0.1% PERMANENT SET.
3. HARDNESS: 30-70 HRH.
4. POROSITY: (OIL CONTENT BY VOLUME) 20% MINIMUM.
5. LUBRICATION: BEARINGS ARE TO BE IMPREGNATED 18% BY VOLUME WITH OIL CONFORMING TO MIL-L-17331.
6. DIMENSIONS: ALL DIMENSIONS ARE IN INCHES.
7. DIMENSIONAL TOLERANCES AND CHAMFERS: SEE TABLES II, III, IV, AND V.
8. LOAD RATINGS: SEE TABLE VI AND REQUIREMENT 9.
9. PERMISSIBLE LOAD: FOR SHAFT VELOCITIES ABOVE 200 FEET PER MINUTE, THE PERMISSIBLE LOAD IS FOUND FROM THE FOLLOWING;
$$P = \frac{50,000}{V} \text{ WHERE } P = \text{SAFE LOAD, PSI OF PROJECTED AREA (} \pi \times \text{BEARING ID} \times \text{LENGTH)}$$
$$V = \text{SHAFT VELOCITY IN FT/MIN}$$

10. STATIC CAPACITY: SPECIFIC STATIC CAPACITY IS 75% OF THE MAXIMUM PURE RADIAL LOAD WHICH WILL PRODUCE A PERMANENT SET OF LESS THAN 0.1% IN BEARING AT ANY CONTACT AREA BETWEEN SHAFT AND BEARING AT ZERO VELOCITY.
(NOTE: THE SPECIFIC STATIC CAPACITY GIVEN IS INTENDED AS A GUIDE IN SELECTING THE PROPER BEARING AND NO TESTS ARE REQUIRED TO DETERMINE THIS FACTOR FOR ACCEPTANCE OF BEARING.)
11. STATIC LOAD: THE MAXIMUM LOAD SHOULD NOT EXCEED 8,500 PSI OF PROJECTED BEARING AREA (LENGTH \times INSIDE DIAMETER OF BEARING).
12. RADIAL CRUSHING STRENGTH: THE RADIAL CRUSHING STRENGTH OF CYLINDRICAL PARTS SHALL BE NOT LESS THAN THE VALUE DETERMINED FROM THE FOLLOWING:

$$S = \frac{Ld^2 \times 22,500}{D-t} \text{ WHERE}$$

S = RADIAL CRUSHING STRENGTH IN POUNDS
D = OD OF BEARING IN INCHES
t = WALL THICKNESS IN INCHES
L = LENGTH OF BEARING IN INCHES

13. PART NUMBER: THE BASIC MILITARY STANDARD (MS) PART NUMBER IS FOLLOWED BY A DASH NUMBER SELECTED FROM TABLE I.



NOTES:

1. FOR DESIGN FEATURE PURPOSES, THIS STANDARD TAKES PRECEDENCE OVER PROCUREMENT DOCUMENTS REFERENCED HEREIN.
2. REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON THE DATE OF INVITATIONS FOR BIDS OR REQUEST FOR PROPOSALS, EXCEPT THAT REFERENCED ADOPTED INDUSTRY DOCUMENTS SHALL GIVE THE DATE OF THE ISSUE ADOPTED.
3. NOT RECOMMENDED FOR MILITARY AIRFRAME APPLICATIONS.

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