

SAE-AS21428

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## Custodians:

Army - AV  
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Adopting Activity  
Navy - AS  
(Project 3110-1082)

## Review Activities:

Army - AR, AT, MI  
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AMSC N/A

FSC 3110

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AS21428

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PREPARED BY AIRFRAME CONTROL BEARINGS GROUP (ACBG)



**AEROSPACE STANDARD**

BEARING, BALL, AIRFRAME,  
ANTI-FRICTION, EXTRA LIGHT DUTY,  
PRECISION

**AS21428**  
SHEET 1 OF 3

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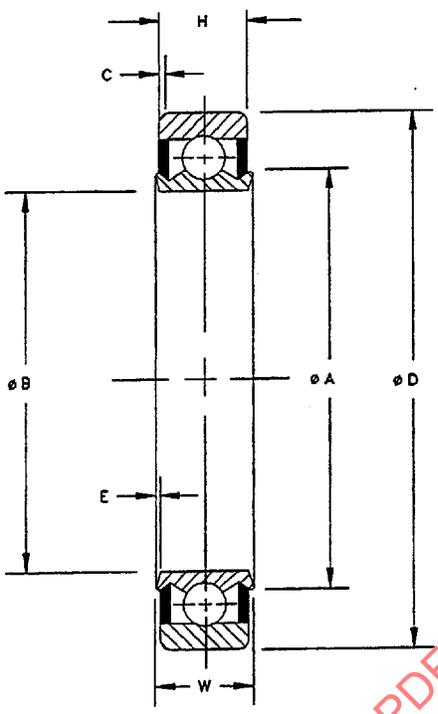


TABLE I. DIMENSIONS AND LOADS

| MS DASH NO. | 2/ BORE | BORE TOLERANCE   | 3/ 4/ OUTSIDE DIAMETER |                  | W     | H    | 5/ SHOULDER DIAMETER INNER RING APPROX. | 6/ E & C CORNER CHAMFER 45° | WEIGHT POUNDS (APPROX) | RADIAL LIMIT LOAD RATING LBS | THRUST LIMIT LOAD RATING LBS | 7/ 8/ RADIAL LOAD RATING (LBS.) FOR AVERAGE LIFE OF 10,000 COMPLETE 90° CYCLES |         | MAXIMUM STARTING TORQUE (INCH-OZ) |
|-------------|---------|------------------|------------------------|------------------|-------|------|---|-----------------------------|------------------------|------------------------------|------------------------------|--|---------|-----------------------------------|
|             |         |                  | 1/ OUTSIDE DIAMETER    | 2/ TOLERANCE     |       |      |   |                             |                        |                              |                              | CASE I   | CASE II |                                   |
| -38         | .6250   | +.0000<br>-.0005 | 1.0625                 | +.0000<br>-.0005 | .2810 | .250 | .777                                    | .015                        | .03                    | 3280                         | 1500                         | 1990   | 1820    | 2                                 |
| -39         | .7500   |                  | 1.1875                 |                  |       |      | .895                                    |                             | .04                    | 3750                         | 1700                         | 2050   | 1900    | 2                                 |
| -40         | .8750   |                  | 1.3125                 |                  |       |      | 1.016                                   |                             | .05                    | 4220                         | 1900                         | 2110   | 1970    | 3                                 |
| -41         | 1.0625  | +.0000<br>-.0005 | 1.5000                 | +.0000<br>-.0005 | .2810 | .250 | 1.216                                   | .015                        | .06                    | 5000                         | 2200                         | 2170   | 2020    | 4                                 |
| -42         | 1.3125  |                  | 1.7500                 |                  |       |      | 1.451                                   |                             | .09                    | 5950                         | 2700                         | 2220   | 2130    | 4                                 |
| -43         | 1.5625  |                  | 2.0000                 |                  |       |      | 1.702                                   |                             | .10                    | 6880                         | 3200                         | 2260   | 2180    | 5                                 |
| -44         | 1.8125  | +.0000<br>-.0008 | 2.2500                 | +.0000<br>-.0007 | .2810 | .250 | 1.970                                   | .015                        | .11                    | 7960                         | 3600                         | 2300   | 2220    | 5                                 |
| -45         | 2.0625  |                  | 2.6250                 |                  |       |      | 2.286                                   |                             | .15                    | 9220                         | 4000                         | 2340   | 2260    | 6                                 |
| -46         | 2.3125  |                  | 2.8750                 |                  |       |      | 2.527                                   |                             | .17                    | 10150                        | 4400                         | 2360   | 2280    | 6                                 |

1/ DIMENSIONS TO BE MET AFTER PLATING.  
 2/ OUT-OF-ROUND TOLERANCES:  
 BORE:  
 FOR -38 THRU -43: +.0003, -.0008  
 FOR -44 THRU -46: +.0003, -.0011  
 OUTER DIAMETER:  
 FOR -38 THRU -43: +.0005, -.0010  
 FOR -44 THRU -46: +.0005, -.0012  
 3/ A RADIUS GIVING APPROXIMATELY THE SAME GRIP FOR STAKING THE BEARING AND MAINTAINING DIMENSION C IS ACCEPTABLE IN LIEU OF THE 45° FLAT SURFACE CHAMFER.  
 4/ A RADIUS GIVING APPROXIMATELY THE SAME FILLET CLEARANCE AND MAINTAINING DIMENSION E IS ACCEPTABLE IN LIEU OF THE 45° FLAT SURFACE CHAMFER.  
 5/ CASE I = LOAD IS FIXED WITH RESPECT TO OUTER RING.  
 CASE II = LOAD IS FIXED WITH RESPECT TO THE INNER RING.  
 6/ THESE RATINGS ARE FOR OPERATION UP TO 250°F FOR OPERATION UP TO 350°F, THE RATINGS SHALL BE REDUCED BY 20%.  
 (C) DENOTES CHANGES

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