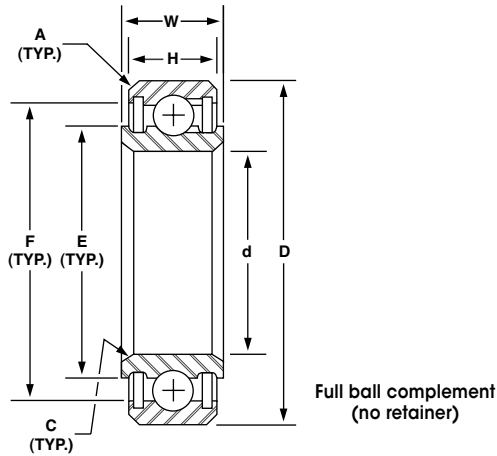




**B500DD (AS27646) / MB500DD (AS21428) Series**



**Notes:**

1. Rings and balls are manufactured from premium quality AISI 52100 chrome steel.
2. Operating temperature range: -65 to +250 °F.
3. All bearings include nonremovable PTFE seals.
4. Bearings are lubricated with MIL-PRF-81322 grease, 80% minimum fill, unless otherwise specified.
5. External surfaces (except bore) are cadmium plated per AMS-QQ-P-416. All dimensions apply after plating.
6. Custom sizes, materials, tolerances, radial internal clearances, lubrication, plating, etc., are available upon request.
7. See "Airframe Part Numbering System" on page 5 for correct NHBB nomenclature.
8. All dimensions are in inches, unless otherwise specified.
9. B500DD/MB500DD series are dimensionally interchangeable with B500/MB500 series (applies to bore, O.D., and width).

Refer to the Qualifications and Manufacturing Schedule for a current list of the Precision Division's AS7949 qualifications and manufacturing capabilities.

**B500DD (AS27646) — Qualified to SAE AS7949**

NHBB BASIC P/N	MS27646 DASH NO.	BORE d	O.D. D	RING WIDTH		BALL COMPLEMENT		RING SHOULDER DIAMETER		RING CHAMFER X 45°		LOAD RATINGS (LBS.)				APPROX. WEIGHT	MAX. STARTING TORQUE <sup>^</sup>
				OUTER H	INNER W	NO.	DIA.	OUTER F	INNER E	OUTER A	INNER C	STATIC		DYNAMIC RADIAL* RING ROTATION			
												RADIAL	THRUST	INNER	OUTER		
		+0.007 -0.007	+0.000 -0.010	+0.00 -0.05	+0.00 -0.05			REF.	REF.	+0.015 -0.000	+0.015 -0.000	RADIAL LIMIT	AXIAL LIMIT			LBS.	OZ.-IN.
B538DD	-38	.6250	1.0625	.250	.281	21	1/8	.898	.785	.015	.015	3280	1500	1990	1820	.03	2.0
B539DD	-39	.7500	1.1875	.250	.281	24	1/8	1.022	.905	.015	.015	3750	1700	2050	1900	.04	2.0
B540DD	-40	.8750	1.3125	.250	.281	27	1/8	1.139	1.025	.015	.015	4220	1900	2110	1970	.05	3.0
B541DD	-41	1.0625	1.5000	.250	.281	32	1/8	1.337	1.229	.015	.015	5000	2200	2170	2020	.06	4.0
B542DD	-42	1.3125	1.7500	.250	.281	38	1/8	1.578	1.464	.015	.015	5950	2700	2220	2130	.09	4.0
B543DD	-43	1.5625	2.0000	.250	.281	44	1/8	1.820	1.706	.015	.015	6880	3200	2260	2180	.10	5.0
B544DD	-44	1.8125 <sup>(1)</sup>	2.2500 <sup>(2)</sup>	.250	.281	51	1/8	2.109	1.980	.015	.015	7980	3600	2300	2220	.11	6.0
B545DD	-45	2.0625 <sup>(1)</sup>	2.6250 <sup>(2)</sup>	.250	.281	59	1/8	2.413	2.299	.015	.015	9220	4000	2340	2260	.15	7.0
B546DD	-46	2.3125 <sup>(1)</sup>	2.8750 <sup>(2)</sup>	.250	.281	65	1/8	2.656	2.542	.015	.015	10150	4400	2360	2280	.17	8.0

Radial internal clearance: .0008 to .0018

<sup>(1)</sup> Bore (d) tolerance: +.0010 / -.0010

<sup>(2)</sup> O.D. (D) tolerance: +.0000 / -.0015

**MB500DD (AS21428) Precision Series — Qualified to SAE AS7949**

NHBB BASIC P/N	MS21428 DASH NO.	BORE d	O.D. D	RING WIDTH		BALL COMPLEMENT		RING SHOULDER DIAMETER		RING CHAMFER X 45°		LOAD RATINGS (LBS.)				APPROX. WEIGHT	MAX. STARTING TORQUE <sup>^</sup>
				OUTER H	INNER W	NO.	DIA.	OUTER F	INNER E	OUTER A	INNER C	STATIC		DYNAMIC RADIAL* RING ROTATION			
												RADIAL	THRUST	INNER	OUTER		
		+0.000 -0.0005	+0.000 -0.0005	+0.00 -0.05	+0.000 -0.0025			REF.	REF.	+0.015 -0.000	+0.015 -0.000	RADIAL LIMIT	AXIAL LIMIT			LBS.	OZ.-IN.
MB538DD	-38	.6250	1.0625	.250	.2810	21	1/8	.898	.785	.015	.015	3280	1500	1990	1820	.03	2.0
MB539DD	-39	.7500	1.1875	.250	.2810	24	1/8	1.022	.905	.015	.015	3750	1700	2050	1900	.04	2.0
MB540DD	-40	.8750	1.3125	.250	.2810	27	1/8	1.139	1.025	.015	.015	4220	1900	2110	1970	.05	3.0
MB541DD	-41	1.0625	1.5000	.250	.2810	32	1/8	1.337	1.223	.015	.015	5000	2200	2170	2020	.06	4.0
MB542DD	-42	1.3125	1.7500	.250	.2810	38	1/8	1.578	1.464	.015	.015	5950	2700	2220	2130	.09	4.0
MB543DD	-43	1.5625	2.0000	.250	.2810	44	1/8	1.820	1.706	.015	.015	6880	3200	2260	2180	.10	5.0
MB544DD	-44	1.8125 <sup>(1)</sup>	2.2500 <sup>(2)</sup>	.250	.2810	51	1/8	2.110	1.980	.015	.015	7980	3600	2300	2220	.11	6.0
MB545DD	-45	2.0625 <sup>(1)</sup>	2.6250 <sup>(2)</sup>	.250	.2810	59	1/8	2.413	2.299	.015	.015	9220	4000	2340	2260	.15	7.0
MB546DD	-46	2.3125 <sup>(1)</sup>	2.8750 <sup>(2)</sup>	.250	.2810	65	1/8	2.656	2.542	.015	.015	10150	4400	2360	2280	.17	8.0

Radial internal clearance: .0001 to .0005

<sup>(1)</sup> Bore (d) tolerance: +.0000 / -.0008

<sup>(2)</sup> O.D. (D) tolerance: +.0000 / -.0007

+ Dynamic radial load ratings are for operation up to 250 °F. Reduce load ratings by 20% for 250 to 350 °F operation. Dynamic radial load ratings are based on an average life of 10,000 complete 90° cycles.

<sup>^</sup>Torque limits are for bearings lubricated with MIL-PRF-81322 grease. For bearings lubricated with MIL-PRF-23827, multiply torque limits by a factor of 1.2.