INCH-POUND
A-A-59659A
22 May 2006
SUPERSEDING
A-A-59659
31 August 2001

COMMERCIAL ITEM DESCRIPTION

BEARINGS, ROLLER, TAPERED, DOUBLE ROW, STRAIGHT BORE, TWO SINGLE CONES, CONE BACK FACE RIB GROUND ON THE OUTER DIAMETER FOR SEALING PURPOSES, ONE DOUBLE CUP WITH LUBRICATION HOLES AND GROOVE (TYPE TNASWE)

The General Services Administration has authorized the use of this commercial item description for all federal agencies.

1. SCOPE. This commercial item description (CID) establishes government acquisition requirements for complete (cone with rollers and cup) double row, tapered, roller bearings with straight bore, two single cones, cone back face rib ground on the outer diameter for sealing purposes, one double cup with lubrication holes and groove (type TNASWE) for general purpose use. These bearings are not intended for use in special precision applications such as on aircraft, precision ordnance or submarine equipment.

2. CLASSIFICATION. The roller bearings shall be of one type (TNASWE) and classified by the size codes listed table I. The column headings in table I refer to bearing characteristics defined in figure 1.

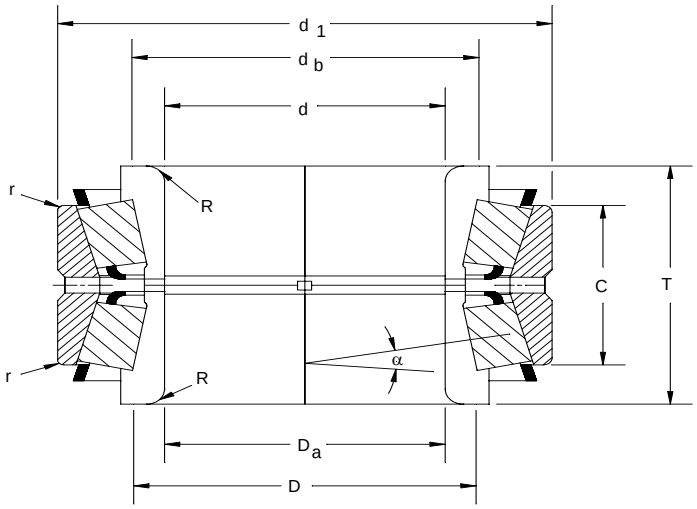


FIGURE 1. Bearing configuration.

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data that may improve this document should be sent to: STDZNMGT@dla.mil or Defense Supply Center Richmond (DSCR), ATTN: DSCR-VEB, 8000 Jefferson Davis Highway, Richmond, VA 23297-5616.

TABLE I. Size codes and dimensions.*

Size code	Part number 1/		d	D	T	C	R 2/	r 2/	d_b	D a	K factor	Basic dynamic load ratings (lb.)
	Cone	Cup	Bore	Outside diameter	Overall width	Overall cup width	Max. shaft fillet radius	Max. housing fillet radius	Recommended shoulder diameter			
									Shaft	Housing		
001	NA05076-SW	05185D	0.7500	1.8504	1.3750	0.9926	0.03	0.03	0.94	1.67	1.64	7500
002	NA15117-SW	15251D	1.1813	2.5000	2.0001	1.4375	0.03	0.03	1.40	2.32	1.67	14000
003	NA24776-SW	24720D	1.5000	3.5000	2.3125	1.5625	0.03	0.03	1.77	2.83	1.49	2100
004	NA439-SW	432D	1.7500	3.7500	2.6250	2.0000	0.03	0.03	2.05	3.43	2.05	35200
005	NA435-SW	432D	1.7500	3.7500	2.8126	2.0000	0.14	0.03	2.24	3.43	2.05	35200
006	NA456-SW	452D	2.0000	4.2500	2.9376	2.1250	0.14	0.03	2.56	3.94	1.74	37400
007	NA483-SW	472D	2.7559	4.7244	2.9376	2.1250	0.14	0.03	3.27	4.49	1.52	39600
008	NA580-SW	572D	3.2500	5.5115	3.6250	2.6250	0.14	0.03	3.86	5.24	1.45	51100
009	NA497-SW	493D	3.3750	5.3750	2.8750	2.1250	0.14	0.03	3.90	5.12	1.31	42800
010	NA596-SW	592D	3.5000	6.0000	3.6250	2.5000	0.14	0.03	4.09	5.67	1.32	59700
011	NA56425-SW	56650D	4.2500	6.5000	3.5000	2.5000	0.14	0.03	4.84	6.26	1.18	62700
012	NA48290-SW	48220D	5.0000	7.1875	3.6874	2.8750	0.14	0.03	5.55	6.93	1.91	74100
013	NA48685-SW	48620D	5.6250	7.8750	3.6876	2.8750	0.14	0.03	6.22	7.60	1.74	74600
014	NA46790-SW	46720D	6.5000	8.8750	3.7500	2.7500	0.14	0.03	7.13	8.58	1.52	78200
015	NA87700-SW	87112D	7.0000	11.1250	4.2500	3.1250	0.14	0.06	7.87	10.50	1.41	119700
016	LM637349-NW	LM637310D	7.2500	9.5625	3.7500	2.7500	0.14	0.06	7.83	9.29	1.39	86500
017	NA67885-SW	67820CD	7.5000	10.5000	4.3125	3.3125	0.14	0.06	8.23	10.20	1.22	115900
018	LM241149-NW	LM241110D	8.0000	10.8750	3.7500	2.8750	0.14	0.06	8.66	10.51	1.83	112100
019	LM446349-NW	LM446310D	9.2500	12.2500	4.0000	2.8750	0.14	0.06	9.92	11.85	1.61	130200
020	NA8575-SW	8520CD	9.2500	12.8750	4.6250	3.2500	0.25	0.06	10.20	12.32	1.44	149200
021	LM249747-NW	LM249710D	9.9990	13.6875	4.0000	2.7500	0.14	0.06	10.71	13.11	1.20	105400
022	LM251649-NW	LM251610D	10.5000	13.8750	4.2500	3.2500	0.25	0.06	11.46	13.39	1.83	154800
023	L3577049-MW	L357010CD	12.0000	15.5000	4.2500	3.2500	0.25	0.06	12.95	14.96	1.63	172900

1/ Part numbers are for reference only. Part numbers reflect the cup and cone numbers used by ndustry and the American Bearing Manufacturers Association (ABMA)

2/ These maximum fillet radii shall be cleared by the bearing corners.

* Column headings in the above table refer to bearing characteristics defined in figure 1.

3. SALIENT CHARACTERISTICS

3.1 Dimensions. Bearing dimensions (and dynamic load ratings, see 3.4) shall conform to the requirements specified in table I for each of the bearing part numbers. The listed dimensions conform to the requirements specified in ABMA Standard 19.2, "Tapered Roller Bearings - Radial Inch Design". The bearing size shall be specified in the acquisition order (see 7.3(b)). For any unlisted bearing size codes, the associated dimensional and dynamic load rating requirements should also be specified in the acquisition order.

3.2 Materials.

3.2.1 Cones (inner rings), cups (outer rings), and rollers. The bearing cones, cups, and rollers shall be made of case carburized or through-hardened steel produced in accordance with ASTM A 295/A 295M, "Standard Specification for High-Carbon Anti-Friction Bearing Steel", or ASTM A 534, "Standard Specification for Carburizing Steels for Anti-Friction Bearings". The steel shall show a fine fracture grain size in accordance with ASTM E 112, "Standard Test Methods for Determining Average Grain Size". Material hardness shall be no less than 58 HRC and no more than 64 HRC as defined in ASTM E 18, "Standard Test Methods for Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials".

3.2.2 Cage. The bearing cage material shall be impervious to deterioration from any lubricant, preservative, solvent, or other chemical substance expected to contact the bearing during normal use or storage. Similarly, the material shall not cause any chemical deterioration of any other bearing component. The cages shall be made from carbon steel (one piece stamped). Materials shall operate from -65 to 230 °F.

3.3 Tolerance class. The tolerance limits for bearings shall conform to tolerance class 4 as tabulated in ABMA Standard 19.2. Allowable tolerances for bearing components and assembled bearings are listed in tables II through V.

3.4 Dynamic load rating. The bearing dynamic load rating shall conform to the requirements specified in table I for each bearing size code. The listed ratings conform to the requirements specified in ABMA Standard 11, "Load Ratings and Fatigue Life for Roller Bearings".

3.5 Lubrication. The bearings shall be furnished without lubrication.

3.6 Contact angle. All bearings are normal angle bearings having a contact angle between 10 and 19 degrees. The contact angle is the angle between the line of action of the roller load and a plane perpendicular to the bearing axis.

TABLE II. Cone bore tolerance.

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

Note: Allowable tolerances are in 0.0001 inch.

TABLE III. Cup diameter tolerance.

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

Note: Allowable tolerances are in 0.0001 inch.

TABLE IV. Bearing width tolerance.

Bearing width (T)			
Bore size range		Tolerance	
Over	Incl.	Plus	Minus
0	5.0000	100	0
5.0000	12.0000	300	0

Note: Allowable tolerances are in 0.0001 inch.

TABLE V. Assembled bearing tolerance.

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

Note: Allowable tolerances are in 0.0001 inch.

4. REGULATORY REQUIREMENTS

4.1 Recovered materials. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

5. PRODUCT CONFORMANCE PROVISIONS

5.1 Product conformance. The products provided shall meet the salient characteristics of this commercial item description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial marketplace. The government reserves the right to require proof of such conformance.

5.2 Market acceptability. The product offered must have been previously sold either to the government or on the commercial market.

6. PACKAGING

6.1 Preservation, packaging, and marking. Unless otherwise specified in the acquisition order, the bearings shall be preserved, packaged, and marked in accordance with MIL-DTL-197, "Packaging of Bearings, Associated Parts and Subassemblies" (see 7.3(c)).

7. NOTES

7.1 Sources of documents.

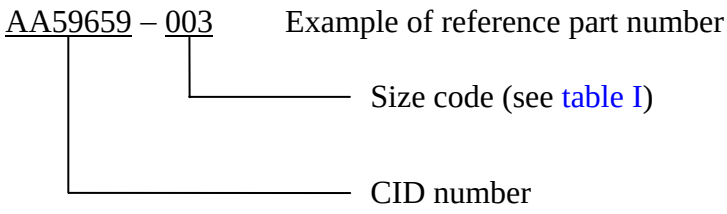
7.1.1 FAR. Copies of the FAR may be obtained from the Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954. Electronic copies of the FAR may be obtained from http://acquisition.gov/comp/far/index.html/.

7.1.2 Military specifications. Copies of military specifications may be obtained from Standardization Documents Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094. Electronic copies of military specifications may be obtained from http://assist.daps.dla.mil/.

7.1.3 ABMA standards. Copies of ABMA standards may be obtained from the American Bearing Manufacturers Association, 2025 M Street NW, Suite 800, Washington, DC 20036. Electronic copies of the ABMA standards may be obtained from http://www.abma-dc.org/.

7.1.4 ASTM standards. Copies of ASTM standards may be obtained from the ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. Electronic copies of the ASTM standards may be obtained from http://www.astm.org/.

7.2 Part or identification number (PIN). The following PIN procedure is for government purposes and does not constitute a requirement for the contractor.



AA59659 - 003 indicates: bearing bore 1.5000 inches; outside diameter 3.5000 inches; width 2.3125 inches.

7.3 Ordering data. Acquisition order should specify the following information:

a. CID document number, revision, and CID PIN.
b. Bearing size (with dimension/load requirements if size is unlisted) (see 3.1).
c. Preservation, packaging, and marking requirements (see 6.1).

7.4 Cross-reference information. Table VI relates the original specification slant sheets to the replacement CIDs.

TABLE VI. Cross-reference table.

FF-B-187B	Replacement CID	ABMA type
Specification sheet 1	A-A-59649	TS
Specification sheet 2	A-A-59650	TSF
Specification sheet 3	A-A-59651	TSS
Specification sheet 4	A-A-59652	TSSF
Specification sheet 5	A-A-59653	TDI & TDIS
Specification sheet 6	A-A-59654	TDO
Specification sheet 7	A-A-59655	TDOS
Specification sheet 8	A-A-59656	TNA (normal angle)
Specification sheet 9	A-A-59657	TNAS (steep angle)
Specification sheet 10	A-A-59658	TNASW
Specification sheet 11	A-A-59659	TNASWE

7.5 Subject term (key word) listing.

bore
cone
cup
load
width

MILITARY INTERESTS:

Custodians:
Army - AR
Navy - MC
Air Force - 99

Review Activities:
Navy - OS
Air Force - 84

CIVIL AGENCY
COORDINATING ACTIVITY:

GSA - FSS

Preparing Activity:
DLA - GS4

(Project 3110-2006-012)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST database at http://assist.daps.dla.mil/.