AMERICAN NATIONAL STANDARD

ANSI/AFBMA
Std. 18.2—1982
(Revision of
ANSI/AFBMA
18.2-1976)
(Reaffirmed: April 28, 1988)

AMERICAN NATIONAL STANDARD
AFBMA STANDARD

NEEDLE ROLLER BEARINGS
RADIAL, INCH DESIGN

Sponsor
The Anti-Friction Bearing
Manufacturers Association, Inc.

Approved May 14, 1982
American National Standards Institute, Inc.

American National Standard

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FOREWORD

(This foreword is not part of ANSI/AFBMA Standard 18.2, Needle Roller Bearings — Radial, Inch Design.)

This Standard comprises a revision of those portions of ANSI/AFBMA Std. 18.2-1976, Inch Design Radial Needle Roller Bearings, which relate to Inch Design Product. All material which relates only to Metric Design Product will be found in Standard 18.1.

Most of the Table numbers have been changed. Using the numbering sequence in this standard, major changes have been made to Tables 4.1 and 5.7. Minor changes have been made to most of the other Tables.

The material in this standard conforms, where possible, to recommendations of the International Standards Organization, Technical Committee 4, Rolling Contact Bearings, in whose work the U.S.A. has actively participated through delegates officially appointed by the American National Standards Institute.

Copies of ISO Recommendations concerning Rolling Contact Bearings (Ball and Roller Bearings) are available from the American National Standards Institute, Inc., 1430 Broadway, New York, N.Y. 10018.

Suggestions for the improvement of this standard gained through experience with its use will be welcomed. These should be sent to the American National Standards Institute, Inc., 1430 Broadway, New York, N.Y. 10018.

The officers of Sectional Committee B3 of the American National Standards Institute and the organizations represented at the time this standard was submitted are as follows:

S. R. Ahlman, Chairman — J. J. Whitsett, Secretary

American Gear Manufacturers Association
American Society of Agricultural Engineers
Anti-Friction Bearing Manufacturers Association
Hydraulic Institute
National Electrical Manufacturers Association
National Machine Tool Builders Association
Society of Automotive Engineers
U.S. Department of the Air Force
U.S. Department of Defense, DISC
U.S. Department of the Navy
Xerox

Other related AFBMA Standards
for
Ball and Roller Bearings
and Balls

1 — Terminology

4 — Tolerance Definitions and Gaging Practices

7 — Shaft and Housing Fits for Metric Radial Ball and Roller Bearings (Except Tapered Roller Bearings) Conforming to Basic Boundary Plans

8.2 — Ball and Roller Bearing Mounting Accessories, Inch Design

9 — Load Ratings and Fatigue Life for Ball Bearings

10 — Metal Balls

11 — Load Ratings and Fatigue Life for Roller Bearings

12 — Instrument Ball Bearings

13 — Roller Bearing Vibration and Noise

14 — Housing for Bearings With Spherical Outside Surfaces

15 — Ball Bearings With Spherical Outside Surfaces and Extended Inner Ring Width (Includes Eccentric Locking Collars)

16.2 — Airframe Ball, Roller and Needle Roller Bearing, Inch Design

17 — Needle Rollers, Metric Design

18.1 — Needle Roller Bearings — Radial, Metric Design

18.2 — Needle Roller Bearings — Radial, Inch Design

19 — Tapered Roller Bearings, Radial, Inch Design

20 — Metric Ball and Roller Bearings (Except Tapered Roller Bearings) Conforming to Basic Boundary Plans

21 — Metric Thrust Needle Roller and Cage Assemblies and Thrust Washers

21.2 — Thrust Bearings of Ball, Cylindrical Roller, Tapered Roller and Needle Roller Types, Inch Design

22 — Spherical Plain Bearings, Joint Type

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Needle Roller Bearings
Radial, Inch Design

CONTENTS

LIST OF TABLES*

*This standard contains only Inch Design Products. Metric Design Products will be found in Standard 18.1 (AFBMA Standard 18.1)

Needle Roller Bearings
Radial, Inch Design

1. SCOPE

This standard for Inch Design Industrial Radial Needle Roller Bearings and components includes:

Identification Code

Boundary Dimensions

Bearing Tolerances

Fitting and Mounting Practice

Airframe Needle Roller Bearings, Needle Roller Thrust Bearings, and bearings of other types are covered in separate AFBMA-ANSI Standards.

2. IDENTIFICATION CODE

2.1 General. This code identifies and, as far as possible, describes each needle roller bearing or component on the basis of complete dimensional and functional interchangeability. This code establishes a universal language for describing and identifying bearings and components in order to facilitate communications between the user and the manufacturer. The code is also intended to simplify the handling by user personnel of identical bearings made by different manufacturers, whose identification numbers may be different and difficult to interpret.

This code applies only to those radial needle roller bearings or components whose boundary dimensions and tolerances conform to this standard.

2.2 Structure of Code. As shown in the following table, Schematic Arrangement of a Complete Code Number, the code consists of three sections.

Section 1, called the Basic Number, includes a diameter symbol made up of a group of numerals, followed by a type symbol made up of a group of letters and finally by a dimension series symbol made up of a group of numerals. This Basic Number must always be used.

Sections 2 and 3 delineate modification of design and lubricants and, if required to complete the identification, consist of additional letters.

In the Schematic Arrangement Tables, "O" represents any code numeral and "A" represents any code letter.

SCHEMATIC ARRANGEMENT OF A COMPLETE CODE NUMBER

Section 1, Basic Number			Section 2	Section 3
Diameter	Type	Dimension Series	Cage Material or Integral Seals or Crowned Outside Surface	Lubricant or Preservative
000	AAAA	00	AAA	A