

# AMERICAN NATIONAL STANDARD

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## Thrust Needle Roller And Cage Assemblies and Thrust Washers Inch Design ANSI/ABMA 21.2:1988

Secretariat

American Bearing  
Manufacturers Association

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# Thrust Needle Roller and Cage Assemblies and Thrust Washers - Inch Design

## 1. SCOPE

This standard for inch thrust needle roller and cage assemblies and thrust washers covers:

- Identification Code
- Symbols and Nomenclature
- Boundary Dimensions
- Tolerances
- Mounting Practice

All thrust needle roller and cage assemblies and thrust washers listed in this standard are not necessarily available. For availability, consult bearing manufacturers. Other applicable standards should be consulted for tolerance definitions, gaging practices and methods of evaluating load ratings.

This standard only covers external dimensions. Functional interchangeability between different makes of standard thrust needle roller and cage assemblies and thrust washers of the same size may depend on bearing features which are not standardized. Hence, the substitution of one make of a standard bearing for another should only be made after careful comparison of their characteristics and consideration of the requirements of the particular application.

## 2. IDENTIFICATION CODE

**2.1 General**—This code identifies and, as far as possible, describes each thrust needle roller and cage assembly or thrust washer on the basis of complete dimensional interchangeability. This code establishes a universal language for describing and identifying inch design thrust needle roller and cage assemblies and thrust washers in order to facilitate communication 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.

This code applies only to those inch design thrust needle roller and cage assemblies and thrust washers whose boundary dimensions and tolerances conform to this standard.

**2.2 Structure of the Code**—As shown in the following table, Schematic Arrangement of a Complete Code Number, the code consists of one or two 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 a dimension series symbol made up of a group of numerals. This Basic Number must always be used.

Section 2, pertains only to thrust needle roller and cage assemblies, and when used delineates cage materials.

In the Schematic Arrangement Table below, "0" represents any code numeral and "A" represents any code letter.

**SCHEMATIC ARRANGEMENT OF A  
COMPLETE CODE NUMBER**

| SECTION 1, BASIC NUMBER |      |                  | SECTION 2*    |
|-------------------------|------|------------------|---------------|
| Diameter                | Type | Dimension Series | Cage Material |
| 00                      | AAA  | 000              | A             |

\*Section 2, when used, pertains only to thrust needle roller and cage assemblies

### 2.2.1 Section 1, Basic Number

#### SCHEMATIC ARRANGEMENT OF SECTION 1

| SECTION 1, BASIC NUMBER |      |                  |
|-------------------------|------|------------------|
| Diameter                | Type | Dimension Series |
| 00                      | AAA  | 000              |

The bore diameter is indicated by two numerals in sixteenths of an inch comprising the diameter symbol as shown in Boundary Dimension Tables 1 and 2.

The type is indicated by a "T" to identify a thrust bearing and two letters comprising the type symbol as shown in 2.2.2.

The dimension series is indicated by two numerals which describes the outside diameter and roller diameter (or washer thickness) as shown in Boundary Dimension Tables 1 and 2.

### 2.2.2 Assembly and Washer Type Symbols

#### A. THRUST NEEDLE ROLLER AND CAGE ASSEMBLIES

| SYMBOL | DESCRIPTION                                         |
|--------|-----------------------------------------------------|
| NR     | Thrust Needle Roller and Cage Assembly, Inch Design |

#### B. THRUST WASHERS

| SYMBOL | DESCRIPTION                |
|--------|----------------------------|
| NP     | Thrust Washer, Inch Design |

### 2.2.3 Section 2, Cage Material

#### SCHEMATIC ARRANGEMENT OF SECTION 2

| SECTION 2<br>CAGE MATERIAL |
|----------------------------|
| A                          |

If cage material is steel, Section 2 is omitted. If not steel, the cage material for the thrust needle roller and cage assembly is indicated by a letter from the following table:

#### CAGE MATERIAL SYMBOLS

| SYMBOL | DESCRIPTION  |
|--------|--------------|
| N      | Non-Metallic |