AN AMERICAN NATIONAL STANDARD

# Gages and Gaging for Unified Inch Screw Threads

## ANSI/ASME B1.2-1983

(REVISION OF ANSI B1.2-1974)

**REAFFIRMED 1991**

FOR CURRENT COMMITTEE PERSONNEL
PLEASE SEE ASME MANUAL AS-11



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THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

United Engineering Center 345 East 47th Street New York, N. Y. 10017

# Errata
# to
# ANSI/ASME B1.2-1983

The Errata correction listed below applies to ANSI/ASME B1.2-1983, Gages and Gaging for Unified Inch Screw Threads.

| Page | Location | Change |
|---|---|---|
| 87 | Table 11 | Under column 8, change third entry from .3744 to .3739 |



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THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS
345 East 47th Street, New York, N.Y. 10017

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NOTE: See FED-STD-H28/6: Screw-Thread Standards for Federal Services, Section 6, Gages and Gaging for Unified Screw Threads – UN and UNR Thread Forms

NOTICE: When reaffirmation, amendment revision, or cancellation of this standard is initially proposed, the industry group responsible for this Standard shall inform the military coordinating activity of the proposed change and request their participation.

Custodians: Army – AR; Navy – AS; Air Force – 11

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AREA-THDS

AN AMERICAN NATIONAL STANDARD

# Gages and Gaging for Unified Inch Screw Threads

## ANSI/ASME B1.2-1983

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THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

United Engineering Center 345 East 47th Street New York, N. Y. 10017

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Date of Issuance: June 15, 1984

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# FOREWORD

(This Foreword is not part of American National Standard ANSI/ASME B1.2-1983, Gages and Gaging for Unified Inch Screw Threads.)



American National Standards Committee B1 for the Standardization of screw threads was organized in 1920 as Sectional Committee B1 under the aegis of the American Engineering Standards Committee (later the American National Standards Association, then the United States of America Standards Institute and, as of October 6, 1969, the American National Standards Institute, Inc.), with the Society of Automotive Engineers and the American Society of Mechanical Engineers as joint sponsors.

In 1982, American National Standards Committee B1 was reorganized as the ASME Standards Committee B1, and since then it has operated under the American Society of Mechanical Engineers Procedures to produce and update standards which may become ANSI Standards after final approval by the American National Standards Institute.

A declaration of accord with respect to the unification of screw threads was signed on November 18, 1948, by representatives of the services and industry of the United States, the United Kingdom, and Canada. The ANSI Unified Screw Thread Standard B1.1, through the quadripartite standardization agreement (QST AG) 247, Unified Threads, is subject to an international standardization agreement through the instrumentality of the American-British-Canadian-Australian Army Standardization Program, which recognizes B1.1 as a standard for Unified Threads when it is required to effect the interchangeability of parts and equipment between the armies of the participating nations.

The first American National Standard for Screw Thread Gages and Gaging was published as ASA B1.2-1941 to supplement the parent Standard ASA B1.1-1935, Screw Threads for Bolts, Nuts, Machine Screws and Threaded Parts. That Standard was revised and republished as a Unified Standard ASA B1.1-1949 and again as ASA B1.1-1960. The Unified Gage Standard was republished as ASA B1.2-1951 and USA B1.2-1966.

On February 9, 1973, a meeting was held by the Department of Commerce at the National Bureau of Standards, Washington, D.C., attended by representatives of government and industry screw thread interests. With the goal of eliminating parallel standards, those at the meeting recommended that the NBS Handbook H-28 be converted into a coordinating document for government screw thread standards wherein sections of H-28 would be replaced by single page references to existing industry standards. It was further recommended that the chairman of American National Standards Committee B1 set up a group to clearly define and establish identified levels of acceptability for screw threads.

At an American National Standards Committee B1 meeting held on May 3, 1973, unanimous approval was given to the following motion: "The B1 Committee recognizing the needs of industry for different levels of acceptability for screw threads, establishes new scopes for Standards B1.1 and B1.2 and sets up a new standard, B1.3." References to conformance criteria were removed from ANSI B1.2-1974 and additional gages and gaging data were added to suit additional conformance requirements specified in ANSI B1.3 or other B1 thread documents.

This new publication, designated ANSI/ASME B1.2-1983, has had considerable new material added to cover the many options of gages and measuring equipment shown in ANSI B1.3, Screw Thread Gaging Systems for Dimensional Acceptability. It has also re-

applied HI and LO to function as NOT GO gages and has eliminated gages with pitch diameter outside product thread limits. ANSI B1.2 was approved by the ASME Standards Committee B1 on March 18, 1983.

The proposed standard was submitted by the ASME Board of Standardization to the American National Standards Institute. It was approved and formally designated an American National Standard on May 16, 1983.

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(The following is the roster of the Committee at the time of approval of this Standard.)

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AN AMERICAN NATIONAL STANDARD

# GAGES AND GAGING FOR UNIFIED INCH SCREW THREADS



## 1 INTRODUCTION

This Standard provides essential specifications and dimensions for the gages used on Unified inch screw threads (UN and UNR thread form), and covers the specifications and dimensions for the thread gages and measuring equipment listed in Tables 1 and 2. The basic purpose and use of each gage are also described.

### 1.1 References

The latest editions of the following documents form a part of this Standard, to the extent specified herein.

*American National Standards*

| | |
|---|---|
| ANSI B1.1 | Unified Inch Screw Threads (UN and UNR Thread Form |
| ANSI B1.3 | Screw Thread Gaging Systems for Dimensional Acceptability |
| ANSI B1.7 | Nomenclature, Definitions, and Letter Symbols for Screw Threads |
| ANSI B46.1 | Surface Texture: Surface Roughness, Waviness, and Lay |
| ANSI B47.1 | Gage Blanks |
| ANSI B89.1.6 | Measurement of Qualified Plain Internal Diameters for Use as Master Rings and Ring Gages |
| ANSI B89.1.9 | Precision Inch Gage Blocks for Length Measurement (Through 20 in.) |
| ANSI B89.3.1 | Measurement of Out-of-Roundness |

### 1.2 Classification

In this Standard, the term NOT GO, previously known as HI and LO, is used to identify functional diameter thread gages.

### 1.3 Federal Government Use

When this Standard is approved by the Department of Defense and federal agencies and is incorporated into FED-STD-H28/6, Screw Thread Standard for Federal Services, Section 6, the use of this Standard by the federal government will be subject to all requirements and limitations of FED-STD-H28/6.

## 2 BASIC PRINCIPLES

### 2.1 Accuracy in Gaging

Thread plug gages are controlled by direct measuring methods. Thread ring gages, thread snap limit gages, and indicating thread gages are controlled by reference to the appropriate setting gages or direct measuring methods or both.

### 2.2 Limitations of Gaging

**2.2.1** Product threads accepted by a gage of one type may be verified by other types. It is possible, however, that parts which are near a limit may be accepted by one type and rejected by another. Also, it is possible for two individual limit gages of the same type to be at opposite extremes of the gage tolerances permitted, and borderline product threads accepted by one gage could be rejected by another. For these reasons, a product screw thread is considered acceptable when it passes a test by any of the permissible gages in ANSI B1.3 for the gaging system specified, provided the gages being used are within the tolerances specified in this Standard.

**2.2.2** Gaging large product external and internal threads equal to or greater than 6.25 in. nominal size with plain and threaded plug and ring gages presents problems for technical and economic reasons. In these instances, verification may be based on use of modified snap or indicating gages or measurement of thread elements. Various types of gages or measuring devices in addition to those defined in this document are available and acceptable when properly correlated to this Standard. Producer and user should agree on the method and equipment used.

## TABLE 1 SCREW THREAD GAGES AND MEASURING EQUIPMENT FOR EXTERNAL PRODUCT THREAD CHARACTERISTICS

| Thread Gages and Measuring Equipment | Unified Inch Threads | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Maximum Material | | NOT GO Functional Diameter | | Minimum Material | | | |
| | GO | | | | Pitch Diam. | | Thd. Groove Diam. | |
| | Func. Limit | Func. Size | Func. Limit | Func. Size | Limit | Size | Limit | Size |
| | $A_1$ | $A_2$ | $B_1$ | $B_2$ | $C_1$ | $C_2$ | $D_1$ | $D_2$ |
| 1 Split or Solid Threaded Rings (ANSI B47.1)<br>1.1 GO | ● | | | | | | | |
| 1.2 NOT GO (LO) | | | ● | | | | | |
| 2 Thread Snap Gages<br>2.1 GO segments | ● | | | | | | | |
| 2.2 NOT GO (LO) segments | | | ● | | | | | |
| 2.3 GO rolls | ● | | | | | | | |
| 2.4 NOT GO (LO) rolls | | | ● | | | | | |
| 2.5 Minimum material — pitch diameter type — cone and vee | | | | | ● | | | |
| 2.6 Minimum material — thread groove diameter type — cone only | | | | | | | ● | |
| 3 Plain Diameter Gages<br>3.1 Plain cylindrical ring for major diameter | | | | | | | | |
| 3.2 Major diameter snap type | | | | | | | | |
| 3.3 Minor diameter snap type | | | | | | | | |
| 3.4 Maximum and minimum major diameter snap type | | | | | | | | |
| 3.5 Maximum and minimum minor diameter snap type | | | | | | | | |
| 4 Indicating Thread Gages<br>Having either two contacts at 180 deg. or three contacts at 120 deg.<br>4.1 GO segments | ● | ● | ● | ● | | | | |
| 4.3 GO rolls | ● | ● | ● | ● | | | | |
| 4.5 Minimum material — pitch diameter type — cone and vee | | | | | ● | ● | | |
| 4.6 Minimum material — thread groove diameter type — cone only | | | | | | | ● | ● |
| 4.7 Major diameter and pitch diameter runout gage | | | | | | | | |

## TABLE 1 SCREW THREAD GAGES AND MEASURING EQUIPMENT FOR EXTERNAL PRODUCT THREAD CHARACTERISTICS (CONT'D)

| Roundness of Pitch Cylinder | | | | Taper of Pitch Cylinder | | Lead Incl. Helix Variation | Flank Angle Variation | Major Diameter | | Minor Diameter | | Root Rad. | Diam. Runout Major to Pitch | Surface Texture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oval 180 deg. | | Multilobe 120 deg. | | | | | | | | | | | | |
| Limit | Size | Limit | Size | Limit | Size | | | Limit | Size | Limit | Size | | | |
| $E_1$ | $E_2$ | $F_1$ | $F_2$ | $G_1$ | $G_2$ | H | I | $J_1$ | $J_2$ | $K_1$ | $K_2$ | L | M | N |
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## TABLE 1 SCREW THREAD GAGES AND MEASURING EQUIPMENT FOR EXTERNAL PRODUCT THREAD CHARACTERISTICS (CONT'D)

| Thread Gages and Measuring Equipment | Unified Inch Threads | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Maximum Material | | NOT GO Functional Diameter | | Minimum Material | | | |
| | GO | | | | Pitch Diam. | | Thd. Groove Diam. | |
| | Func. Limit | Func. Size | Func. Limit | Func. Size | Limit | Size | Limit | Size |
| | $A_1$ | $A_2$ | $B_1$ | $B_2$ | $C_1$ | $C_2$ | $D_1$ | $D_2$ |
| 4.8 Differential segment or roll (GO profile for one pitch in length) used in combination with a GO indicating gage to yield a diameter equivalent for variation in lead (including uniformity of helix); and a minimum material indicating gage to yield a diameter equivalent for variation in flank angle | | | | | | | | |
| 5 Indicating Plain Diameter Gages 5.1 Major diameter type | | | | | | | | |
| 5.2 Minor diameter type | | | | | | | | |
| 6 Pitch Micrometer With Standard Contacts [Approximately NOT GO (LO) Profile] Cone and Vee | | | ● | ● | | | | |
| 7 Pitch Micrometer With Modified Contacts [Approximately Pitch Diameter Contact] Cone and Vee | | | | | ● | ● | | |
| 8 Thread-Measuring Wires With Suitable Measuring Means | | | | | | | ● | ● |
| 9 Optical Comparator and Toolmaker's Microscope With Suitable Fixturing | | | | | ● | ● | | |
| 10 Profile Tracing Equipment With Suitable Fixturing | | | | | | | | |
| 11 Lead Measuring Machine With Suitable Fixturing | | | | | | | | |
| 12 Helical Path Attachment Used With GO Type Indicating Gage | | | | | | | | |
| 13 Helical Path Analyzer | | | | | | | | |
| 14 Plain Micrometer and Calipers — Modified As Required | | | | | | | | |
| 15 Surface Measuring Equipment | | | | | | | | |
| 16 Roundness Equipment | | | | | | | | |

NOTE:
(1) Maximum minor diameter limit is acceptable when product passes GO gage on UN and UNR threads.

## TABLE 1 SCREW THREAD GAGES AND MEASURING EQUIPMENT FOR EXTERNAL PRODUCT THREAD CHARACTERISTICS (CONT'D)

| Roundness of Pitch Cylinder | | | | Taper of Pitch Cylinder | | Lead Incl. Helix Variation | Flank Angle Variation | Major Diameter | | Minor Diameter | | Root Rad. | Diam. Runout Major to Pitch | Surface Texture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oval 180 deg. | | Multilobe 120 deg. | | | | | | | | | | | | |
| Limit | Size | Limit | Size | Limit | Size | | | Limit | Size | Limit | Size | | | |
| $E_1$ | $E_2$ | $F_1$ | $F_2$ | $G_1$ | $G_2$ | H | I | $J_1$ | $J_2$ | $K_1$ | $K_2$ | L | M | N |
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## TABLE 2 SCREW THREAD GAGES AND MEASURING EQUIPMENT FOR INTERNAL PRODUCT THREAD CHARACTERISTICS

| Thread Gages and Measuring Equipment | Unified Inch Threads | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Maximum Material | | NOT GO Functional Diameter | | Minimum Material | | | |
| | GO | | | | Pitch Diam. | | Thd. Groove Diam. | |
| | Func. Limit | Func. Size | Func. Limit | Func. Size | Limit | Size | Limit | Size |
| | $A_1$ | $A_2$ | $B_1$ | $B_2$ | $C_1$ | $C_2$ | $D_1$ | $D_2$ |
| 1 Threaded Plugs (ANSI B47.1)<br>1.1 GO | ● | | | | | | | |
| 1.2 NOT GO (HI) | | | ● | | | | | |
| 2 Thread Snap Gages<br>2.1 GO segments | ● | | | | | | | |
| 2.2 NOT GO (HI) segments | | | ● | | | | | |
| 2.3 GO rolls | ● | | | | | | | |
| 2.4 NOT GO (HI) rolls | | | ● | | | | | |
| 2.5 Minimum material — pitch diameter type — cone and vee | | | | | ● | | | |
| 2.6 Minimum material — thread groove diameter type — cone only | | | | | | | ● | |
| 3 Plain Diameter Gages<br>3.1 Plain cylindrical plugs for minor diameter | | | | | | | | |
| 3.2 Major diameter snap type | | | | | | | | |
| 3.3 Minor diameter snap type | | | | | | | | |
| 3.4 Maximum and minimum major diameter snap type | | | | | | | | |
| 3.5 Maximum and minimum minor diameter snap type | | | | | | | | |
| 4 Indicating Thread Gages<br>Having either two contacts at 180 deg or three contacts at 120 deg.<br>4.1 GO segments | ● | ● | | | | | | |
| 4.3 GO rolls | ● | ● | | | | | | |

## TABLE 2 SCREW THREAD GAGES AND MEASURING EQUIPMENT FOR INTERNAL PRODUCT THREAD CHARACTERISTICS (CONT'D)

| Roundness of Pitch Cylinder | | | | Taper of Pitch Cylinder | | Lead Incl. Helix Variation | Flank Angle Variation | Major Diameter | | Minor Diameter | | Root Rad. | Diam. Runout Minor to Pitch | Surface Texture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oval 180 deg. | | Multilobe 120 deg. | | | | | | | | | | | | |
| Limit | Size | Limit | Size | Limit | Size | | | Limit | Size | Limit | Size | | | |
| $E_1$ | $E_2$ | $F_1$ | $F_2$ | $G_1$ | $G_2$ | H | I | $J_1$ | $J_2$ | $K_1$ | $K_2$ | L | M | N |
| | | | | | | | | (Note 1) | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | (Note 1) | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | (Note 1) | | | | | | |
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| | | | | | | | | | | • | | | | |
| • | • | • | • | | | | | | (Note 1) | | | | | |
| • | • | • | • | | | | | | (Note 1) | | | | | |

## TABLE 2 SCREW THREAD GAGES AND MEASURING EQUIPMENT FOR INTERNAL PRODUCT THREAD CHARACTERISTICS (CONT'D)

| Thread Gages and Measuring Equipment | Unified Inch Threads | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Maximum Material | | NOT GO Functional Diameter | | Minimum Material | | | |
| | GO | | | | Pitch Diam. | | Thd. Groove Diam. | |
| | Func. Limit | Func. Size | Func. Limit | Func. Size | Limit | Size | Limit | Size |
| | $A_1$ | $A_2$ | $B_1$ | $B_2$ | $C_1$ | $C_2$ | $D_1$ | $D_2$ |
| 4.5 Minimum material — pitch diameter type — cone and vee | | | | | ● | ● | | |
| 4.6 Minimum material — thread groove diameter type — cone only | | | | | | | ● | ● |
| 4.7 Minor diameter and pitch diameter runout gage | | | | | | | | |
| 4.8 Differential segment or roll (GO profile for one pitch in length) used in combination with a GO indicating gage to yield a diameter equivalent for variation in lead (including uniformity of helix), and a minimum material indicating gage to yield a diameter equivalent for variation in flank angle | | | | | | | | |
| 5 Indicating Plain Diameter Gages<br>5.1 Major diameter type | | | | | | | | |
| 5.2 Minor diameter type | | | | | | | | |
| 6 Pitch Micrometer With Standard Contacts [Approximately NOT GO (HI) Profile] Cone and Vee | | | ● | ● | | | | |
| 7 Pitch Micrometer With Modified Contacts (Approximately Pitch Diameter Contact) Cone and Vee | | | | | ● | ● | | |
| 8 Thread-Measuring Balls With Suitable Measuring Means | | | | | | | ● | ● |
| 9 Optical Comparator and Toolmaker's Microscope With Suitable Fixturing and Cast Replica | | | | | ● | ● | | |
| 10 Profile Tracing Equipment With Suitable Fixturing | | | | | | | | |
| 14 Surface Measuring Equipment | | | | | | | | |
| 15 Roundness Equipment | | | | | | | | |

NOTE:
(1) Minimum major diameter limit is acceptable when product passes GO gage.

## TABLE 2 SCREW THREAD GAGES AND MEASURING EQUIPMENT FOR INTERNAL PRODUCT THREAD CHARACTERISTICS (CONT'D)

| Roundness of Pitch Cylinder | | | | Taper of Pitch Cylinder | | Lead Incl. Helix Variation | Flank Angle Variation | Major Diameter | | Minor Diameter | | Root Rad. | Diam. Runout Minor to Pitch | Surface Texture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oval 180 deg. | | Multilobe 120 deg. | | | | | | | | | | | | |
| Limit | Size | Limit | Size | Limit | Size | | | Limit | Size | Limit | Size | | | |
| $E_1$ | $E_2$ | $F_1$ | $F_2$ | $G_1$ | $G_2$ | H | I | $J_1$ | $J_2$ | $K_1$ | $K_2$ | L | M | N |
| • | • | • | • | • | • | | | | | | | | | |
| • | • | • | • | • | • | | | | | | | | | |
| | | | | | | | | | | | | | • | |
| • | • | • | • | • | • | • | • | | | | | | | |
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| • | • | | | • | • | | | | | | | | | |
| • | • | | | • | • | | | | | | | | | |
| | | | | | | • | • | • | • | | | • | | |
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| | | | | | | | | | | | | | | • |
| • | • | • | • | | | | | | | | | | | |

**2.2.3** Indicating gages for internal threads smaller than 3/16 in. are not available.

## 2.3 Determining Size of Gages

**2.3.1 Measuring Pitch Diameter.** The three-wire method of determining pitch diameter size of thread plug gages is standard for gages in this Standard. Refer to Appendix B.

**2.3.2** Size limit adjustments of thread ring and external thread snap gages are determined by their fit on their respective calibrated setting plugs. Indicating gages and thread gages for product external threads are controlled by reference to appropriate calibrated setting plugs.

**2.3.3** Size limit adjustments of internal thread snap gages are determined by their fit on their respective calibrated setting rings. Indicating gages and other adjustable thread gages for product internal threads are controlled by reference to appropriate calibrated setting rings or by direct measuring methods.

## 2.4 Standard Temperature

**2.4.1** A temperature of 68°F (20°C) is the standard temperature used internationally for linear measurements. Nominal dimensions of gages and product as specified and actual dimensions as measured shall be within specified limits at this temperature. For screw thread gaging, the acceptable tolerance on the standard temperature is ±2°F (±1°C).

**2.4.2** As product threads are frequently checked at temperatures which are not controlled, it is desirable that the coefficient of the thermal expansion of gages be the same as that of the product on which they are used. Inasmuch as the majority of threaded product consists of iron or steel, and screw thread gages are ordinarily made of hardened steel, this condition is usually fulfilled without special attention, provided thread gages and product have stabilized to the same temperature. When the materials of the product thread and the gage are dissimilar, the differing thermal coefficients can cause serious complications and must be taken into account, unless both product and gage at the time of gaging are at a temperature of:

(*a*) 68°F ±4°F (20°C ±2°C) for 1 in. and smaller

(*b*) 68°F ±2°F (20°C ±1°C) for sizes above 1 in. to 3 in.

(*c*) 68°F ±1°F (20°C ±0.5°C) for sizes above 3 in. to 6 in.

# 3 GENERAL PRACTICE

## 3.1 General Design

The design of gages is specified only to the extent that it affects the results obtained in the gaging of product threads. Moreover, to serve their intended purposes satisfactorily, thread gages should be produced by the latest and best manufacturing techniques. The type of steel or wear-resistant material selected, together with the heat-treating and stabilization processes, should provide wear life and dimensional stability. Thread gaging elements should be precisely manufactured to assure adequate refinement of surface texture, prevention or elimination of amorphous or smear metal, and uniformity of thread form over the entire length of the gaging member.

## 3.2 Types of Gages

For GO thread gages, check either the maximum-material limit or size to assure interchangeable assembly. For NOT GO (HI and LO) thread gages, inspect the NOT GO functional diameter limit.

For GO and NOT GO plain cylindrical plug or ring gages and snap or indicating gages, check the limit or size of the minor diameter of product internal threads and the major diameter of product external threads, respectively.

## 3.3 Interpretation of Tolerances

Tolerances on lead, half-angle, and pitch diameter are variations which may be taken independently for each of these elements and may be taken to the extent allowed by respective tabulated dimensional limits. The tabulated tolerance on any one element must not be exceeded, even though variations in the other two elements are smaller than the respective tabulated tolerances.

## 3.4 Direction of Tolerances on Gages

At the maximum-material limit (GO), the dimensions of all gages used for final conformance gaging are to be within the limits of size of the product thread. At the functional diameter limit, using NOT GO (HI and LO) thread gages, the standard practice is to have the gage tolerance within the limits of size of the product thread. Specifications for gage limits are listed in Tables 4 and 5.

### 3.5 Standard Thread Gage Tolerances

Standard tolerances for thread-working gages, thread-setting plugs, and setting rings are as follows:

(*a*) W tolerance, shown in Table 7, represent the highest commercial grade of accuracy and workmanship and are specified for thread-setting gages;

(*b*) X tolerances, shown in Table 6, are larger than W tolerances and are used for product inspection gages.

Unless otherwise specified, all thread gages and gaging contacts which directly check the product thread shall be X tolerance.

### 3.6 Tolerance on Lead

Cumulative effect of progressive or erratic helix variation and thick or thin end thread variations is specified as an allowable variation between any two threads not farther apart than the length of the standard taperlock or trilock gage, shown in ANSI B47.1. In the case of setting plugs, the specified tolerance shall be applicable to the thread length in the mating ring gage or nine pitches, whichever is smaller. For setting rings, the tolerance applies to a thread length of three pitches. The tolerance on lead establishes the width of a zone, measured parallel to the axis of the thread, within which the actual helical path must lie for the specified length of the thread. Measurements will be taken from a fixed reference point located at the start of the first full thread to a sufficient number of positions along the entire helix to detect all types of lead variations. The amounts that these positions vary from their basic (theoretical) positions will be recorded with due respect to sign. The greatest variation in each direction [plus and minus (±)] will be selected and the sum of their values, *disregarding sign*, shall not exceed the specified tolerance. If the variations are all in one direction, the maximum value governs conformance. In the case of truncated setting plugs, the lead variations present on the full-form portion and the truncated portion of an individual gage shall not differ from each other by more than 0.0001 in. over any portion equivalent to the length of the thread ring gage, or nine pitches, whichever is less. (When linear lead and drunkenness are measured as individual elements and the sum of these does not exceed the tolerance specified, the gage is well within tolerance.)

### 3.7 Tolerances on Half-Angle

Tolerances are specified for the half-angles rather than the included angle to assure that the bisector of the included angle will be perpendicular to the axis of the thread within proper limits. The equivalent of the variation from the true thread form caused by such irregularities as convex, concave or wavy flanks, rounded crests, or slight projections on the thread form shall not exceed the tolerance permitted on half-angle.

### 3.8 Check of Effect of Lead and Flank Angle Variations on Product Thread

When this check is specified, there are two general methods available for the inspection procedures involved.

(*a*) *Direct Measurement of Lead and Half-Angle of Flanks.* The lead and flank angles of the product thread may be measured by means of available measuring equipment, such as thread indicating gages, projection comparators, measuring microscopes, graduated cone points, lead measuring machines, helix variation measuring machines, thread flank charting equipment, etc. Diameter equivalents of such variations from nominal may be calculated: each 0.0001 in. variation in lead amounts to 0.00017 in. (1.732 × .00001) increase in functional pitch diameter on external threads or a decrease in functional pitch diameter on internal threads for 60 deg. screw threads. The tangent of half-angle variation times 1.5$p$ equals the approximate maximum change in functional pitch diameter, based on a height of thread engagement of 0.625$H$ and equal half-angle variations.

(*b*) *Differential Gaging Utilizing Indicating Thread Gages.* See Sections 4 and 5 for explanation and illustration of differential gaging for internal and external threads.

### 3.9 Calibration Requirements and Standards

Calibration requirements and standards for X tolerance thread gages, snap gages, and indicating gages; Z tolerance plain gages and measuring instruments are given in Table 12 for external product threads, in Table 13 for internal product threads, and in Table 14 for setting gages. See Appendix A for methods of calibrating and inspecting gages.

## 4 TYPES OF GAGES FOR PRODUCT INTERNAL THREAD

### 4.1 GO Working Thread Plug Gages (Table 2 — Gage 1.1)

**4.1.1 Purpose and Use.** The GO thread plug gage inspects the maximum-material GO functional limit, $A_1$, of product internal thread. The GO thread

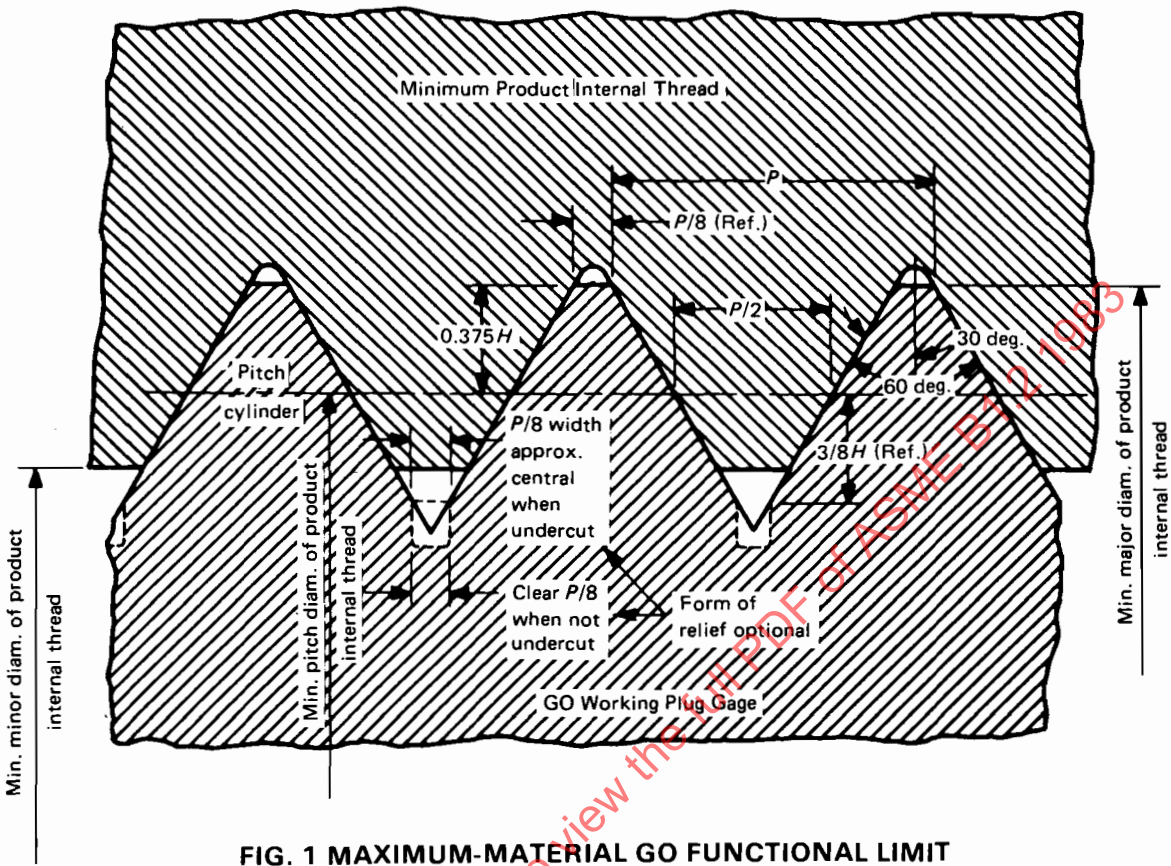



**FIG. 1 MAXIMUM-MATERIAL GO FUNCTIONAL LIMIT**



gage represents the maximum-material GO functional limit of the product internal thread, and its purpose is to assure interchangeable assembly of maximum-material mating parts. GO thread plug gages must enter and pass through the full-threaded length of the product freely. The GO thread plug gage is a cumulative check of all thread elements except the minor diameter.

**4.1.2 Basic Design.** The maximum-material limit on GO thread plus gages is made to the prescribed maximum-material limit of the product internal thread, and the gaging length is equal to the length of the gaging plug.

**4.1.3 Gage Blanks.** For practical and economical reasons, the design and lengths of the gaging plug members have been standardized for various size ranges and pitches (see ANSI B47.1 or Table A3).

**4.1.4 Thread Form.** The specifications for thread form are summarized in Table 4 and Fig. 1.

**4.1.5 Thread Crests.** The major diameter of the GO thread plug gage shall be the same as the minimum major diameter of the product internal thread with a plus gage tolerance. The thread crests shall be flat in an axial section and parallel to the axis.

**4.1.6 Thread Roots.** The minor diameter of the GO thread plug gage shall be cleared beyond a $p/8$ width of flat either by an extension of the sides of the thread toward a sharp vee or by an undercut no greater than $p/8$ maximum width and approximately central.

**4.1.7 Runout of Pitch and Major Cylinders.** On thread plug gages an eccentric condition produces an oversize effective major diameter having a width of flat less than $p/8$, which may encroach on the minimum permissible limit for the root profile of the product internal thread. The permissible maximum effective major diameter, as determined by adding measurement of runout (full-indicator movement) with respect to the pitch cylinder to the measured

major diameter, shall not exceed the maximum major diameter specified.

**4.1.8 Pitch Cylinder.** The pitch cylinder shall be round and straight within the gage pitch diameter limits specified.

**4.1.9 Lead and Half-Angle Variations.** Lead and half-angle variations shall be within the limits specified. See Table 6.

**4.1.10 Incomplete Thread.** The feather edge at both ends of the threaded section of the gaging member shall be removed. On pitches coarser than 28 threads/in., not more than one complete turn of the end threads shall be removed to obtain a full-thread form blunt start. See Fig. 2. On pitches 28 threads/in. and finer, a 60 deg. chamfer from the axis of the gage is acceptable in lieu of the blunt start.

**4.1.11 Chip Grooves.** Each GO thread plug gage, except in sizes No. 8 (0.164 in.) and smaller, shall be provided with a chip groove at the entering end. On reversible gages, a chip groove shall be provided at each end. Chip grooves that are in accordance with commercial practice are acceptable, such as a groove cut at an angle with the axis or a longitudinal groove cut parallel with the axis and extending the complete length of the gaging member. The groove shall be located circumferentially at the start of the full thread, and in all cases the depth shall extend below the root of the first full thread. The distance from the major diameter of the thread plug to the crest of the convolution rise in front of the chip groove, due to the radius of the convoluting tool, shall be a minimum of $H/2$ as shown in Fig. 2. The beginning of the first thread shall be full form. The recommended widths for chip grooves are as shown in Table 3.

**4.1.12 Identification.** The GO thread plugs should be identified by the nominal size, threads/in., thread series, GO, PD, and pitch diameter.

EXAMPLE:
1/4-20 (or .250-20) UNC GO PD.2175

## 4.2 NOT GO (HI) Thread Plug Gages (Table 2 — Gage 1.2)

**4.2.1 Purpose and Use.** The NOT GO (HI) thread plug gage inspects the NOT GO (HI) functional diameter limit, $B_1$, of product internal thread. The NOT GO (HI) thread plug gage represents the

**TABLE 3 RECOMMENDED WIDTHS FOR CHIP GROOVES**

| Nominal Diameter, in. | Chip Groove Width, in. Max. | Min. |
|---|---|---|
| No. 8 (0.164) and smaller | No chip groove required | |
| Above No. 8 (0.164) to and including No. 12 (0.216) | 0.036 | 0.026 |
| Above No. 12 (0.216) to and including 3/8 (0.375) | 0.052 | 0.042 |
| Above 3/8 (0.375) to and including 1/2 (0.500) | 0.067 | 0.057 |
| Above 1/2 (0.500) to and including 1 (1.000) | 0.083 | 0.067 |
| Above 1 (1.000) to and including 1-3/4 (1.750) | 0.130 | 0.067 |
| Above 1-3/4 (1.750) | 0.193 | 0.067 |

NOT GO (HI) functional diameter limit of the product internal thread.

Thread plug gages when applied to the product internal thread may engage only the end threads (which may not be representative of the complete thread). Entering threads on product are incomplete and permit gage to start. Starting threads on NOT GO (HI) plugs are subject to greater wear than the remaining threads. Such wear in combination with the incomplete product threads permits further entry of the gage. NOT GO (HI) functional diameter is acceptable when the NOT GO (HI) thread plug gage applied to the product internal thread does not enter more than three complete turns. The gage should not be forced. Special requirements such as exceptionally thin or ductile material, small number of threads, etc., may necessitate modification of this practice.

**4.2.2 Basic Design.** To better check the maximum functional diameter limit, the flank contact is reduced by truncating the major diameter, and the length of the gaging element, where practical, is less than that of the GO gage.

**4.2.3 Gage Blanks.** For practical and economic reasons, the designs and lengths of the gaging elements have been standardized for various size ranges and pitches (see ANSI B47.1 or Table A3).

**4.2.4 Thread Form.** The specifications for thread form are summarized in Table 4 and Fig. 3.

**4.2.5 Thread Crests.** The maximum major diameter of the NOT GO (HI) thread plug gage shall

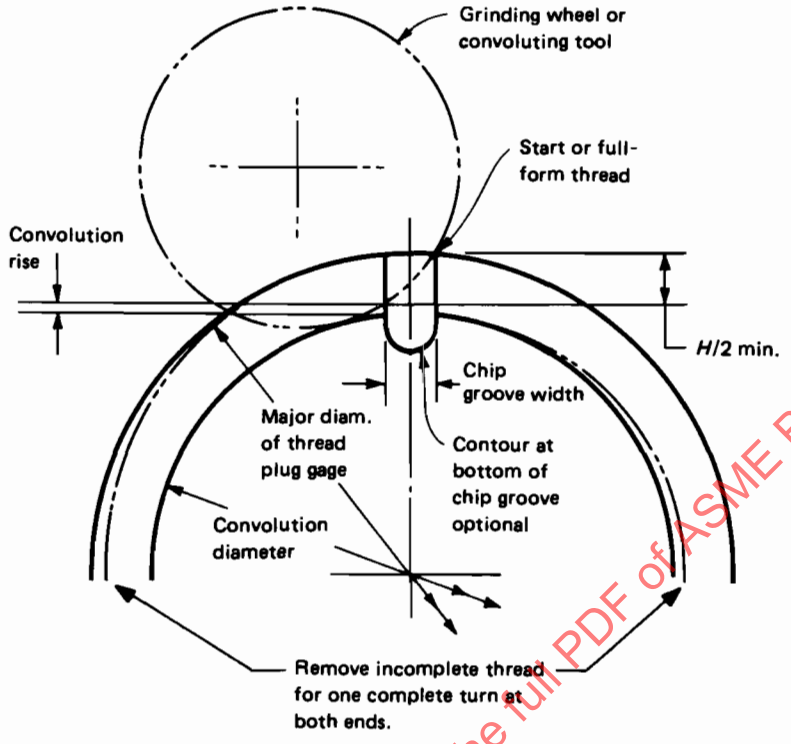



**FIG. 2 PARTIAL END THREADS AND CHIP GROOVES**



be equal to the maximum pitch diameter of the product internal thread plus $0.5H$ with the gage tolerance minus. This corresponds to a width of flat at the crest of the gage equal to $0.25p$. See Table 4.

**4.2.6 Thread Roots.** The minor diameter of the NOT GO (HI) thread plug gage shall be cleared beyond a $p/8$ width of flat by an extension toward a sharp vee of the sides of the thread from the position corresponding to this approximate width; or by an undercut to any dimension no wider than the width resulting from a $p/8$ maximum width, either side of and approximately central with the center line of the thread groove.

**4.2.7 Runout of Pitch and Major Cylinders.** The permissible maximum effective diameter, as determined by adding measurements of runout (full-indicator movement) with respect to the pitch cylinder to the measured major diameter, shall not exceed the maximum major diameter specified.

**4.2.8 Pitch Cylinder.** The pitch cylinder shall be round and straight within the gage pitch diameter limits specified.

**4.2.9 Lead and Half-Angle Variations.** Lead and half-angle variations shall be within the limits specified. See Table 6.

**4.2.10 Incomplete Thread.** The feather edge at both ends of the threaded section of the gaging member shall be removed. On pitches coarser than 28 threads/in., not more than one complete turn of the end threads shall be removed to obtain a full-thread blunt start. See Fig. 2. On pitches 28 threads/in. and finer, a 60 deg. chamfer from the axis of the gage is acceptable in lieu of the blunt start.

**4.2.11 Identification.** The NOT GO (HI) thread plug gage should be marked with the nominal size, threads/in., thread series, class, NOT GO, PD, and pitch diameter.

EXAMPLE:
1/4-20 (or .250-20) UNC-2B NOT GO PD.2224

### 4.3 Thread Snap Gages — GO Segments or Rolls (Table 2 — Gages 2.1 and 2.3)

**4.3.1 Purpose and Use.** The thread snap gage with two GO threaded segments or two GO zero lead

**TABLE 4 SPECIFICATIONS AND FORMAT FOR TABLES 10 AND 11 — LIMITS OF SIZE OF THREADED AND PLAIN GAGES FOR UNIFIED EXTERNAL AND INTERNAL THREADS**

| | | | | | |
|---|---|---|---|---|---|
| Nominal Size and Threads/in. | | | | 1 | (To be specified) |
| Series Designation and Tolerance Class | | | | 2 | Of external thread to be checked |
| Gages for External Threads | Thread gages | GO | Pitch diameter | 3 | Max. pitch diameter of external thread; gage tolerance minus |
| | | | Minor diameter | 4 | Max. pitch diameter of external thread; minus $H/2$; gage tolerance minus |
| | | NOT GO (LO) | Pitch diameter | 5 | Min. pitch diameter of external thread; gage tolerance plus |
| | | | Minor diameter | 6 | Min. pitch diameter of external thread minus $0.25H$; gage tolerance plus |
| | Plain gages for major diameter | GO | | 7 | Max. major diameter of external thread; gage tolerance minus |
| | | NOT GO | | 8 | Min. major diameter of external thread; gage tolerance plus |
| Gages for Internal Threads | Thread gages | GO | Major diameter | 9 | Min. major diameter of internal thread; gage tolerance plus |
| | | | Pitch diameter | 10 | Min. pitch diameter of internal thread; gage tolerance plus |
| | | NOT GO (HI) | Major diameter | 11 | Max. pitch diameter of internal thread plus $H/2$; gage tolerance minus |
| | | | Pitch diameter | 12 | Max. pitch diameter of internal thread; gage tolerance minus |
| | Plain gages for minor diameter | GO | | 13 | Min. minor diameter of internal thread; gage tolerance plus |
| | | NOT GO | | 14 | Max. minor diameter of internal thread; gage tolerance minus |
| Series Designation and Tolerance Class | | | | 15 | Of internal thread to be checked |



rolls inspects the maximum-material GO functional limit, $A_1$, of product internal thread. The setting of the GO segments or rolls represents the maximum-material GO functional limit of the product internal thread, and its purpose is to assure interchangeable assembly of maximum-material mating parts. The segments or rolls theoretically engage over the full-threaded length of the product. The segments or rolls have a cumulative check of all thread elements except the minor diameter.

Internal thread snap gages by design must have an outside diameter of gaging elements below minor diameter of internal thread in order to enter. The gage checks all thread elements by sensing the resistance of contact after being set to a master.

The GO thread snap gage can also indicate out-of-roundness of pitch cylinder for 180 deg. ovality by using the gage at different internal diametral locations on the product thread.

**4.3.2 Basic Design.** The GO segments and rolls assembled into gage frames are the design of the individual gage manufacturer. The lengths of the two threaded segments and the two thread rolls spaced 180 deg. apart are equivalent to the standard gage blank lengths for practical and economic reasons. See Table A3 and Fig. 4. Internal product threads less than 3/16 in. in diameter are not practical to check with snap gages. GO thread segments shall engage 25% or more of the product circumference. Product shall be

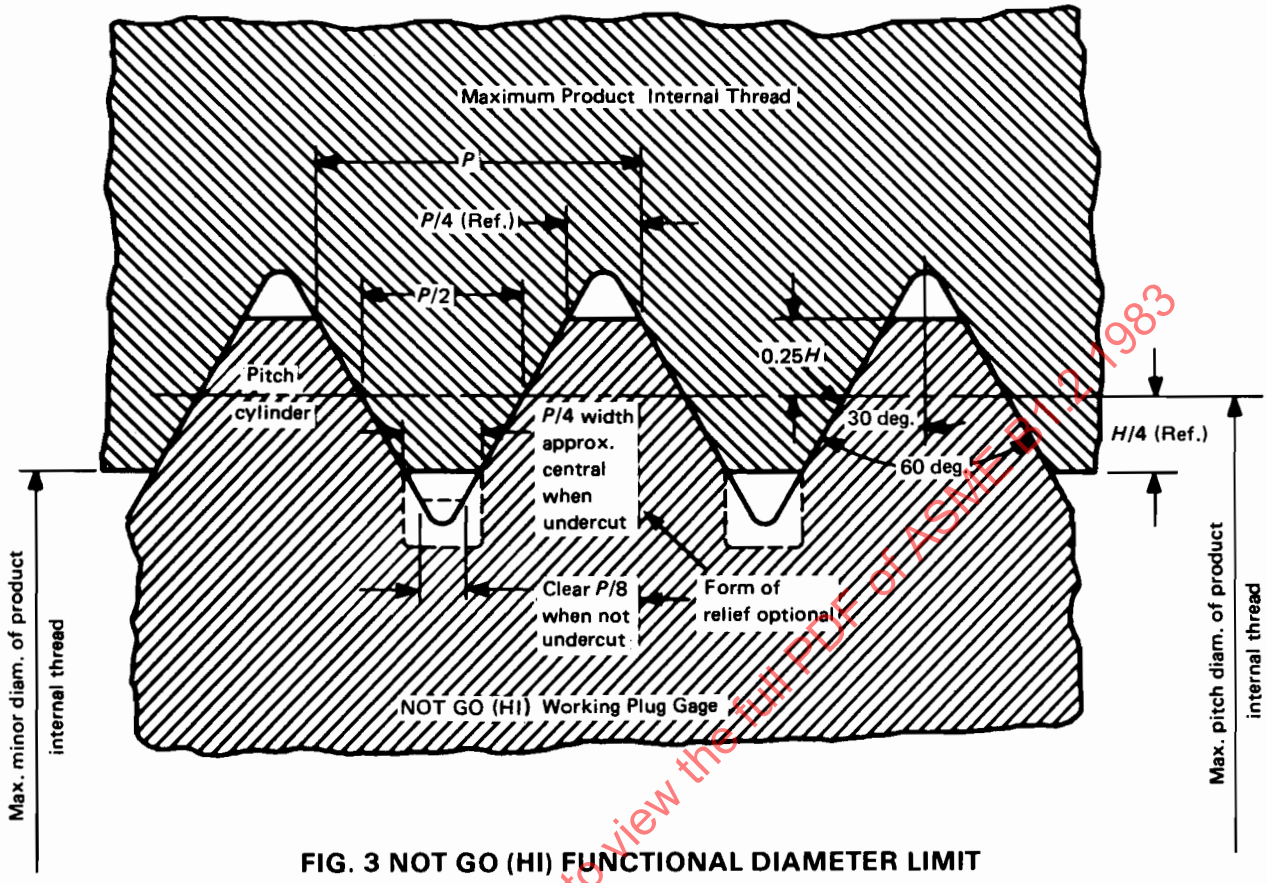



FIG. 3 NOT GO (HI) FUNCTIONAL DIAMETER LIMIT



checked around circumference of thread at sufficient axial positions to check the full-thread length. Thread rolls shall be applied at several locations (three if possible) axially over the full-thread length of product. The circumference shall be checked at each position.

**4.3.3 Thread Form.** The specifications for thread form are summarized in Table 4 and Fig. 4.

**4.3.4 Thread Crests.** The outside diameter of the threaded portion of the GO segments or rolls has the equivalent of a $P/8$ flat on the thread with a plus gage tolerance. The thread crest shall be flat in an axial section and parallel to the axis of the gaging member.

**4.3.5 Thread Roots.** The minor diameter of the threaded portion of the GO segments or rolls shall be cleared beyond a $P/8$ flat either by an extension of the flanks of the thread toward a sharp vee or by an undercut no greater than $P/8$ maximum width and approximately central.

**4.3.6 Runout.** The pitch and major cylinders of the threaded portion of the GO segments or rolls shall not exceed the runout as determined by measurements of runout (full-indicator movement) on each gaging member, with respect to the pitch cylinder. Runout shall not exceed one-half the X gage major diameter tolerance.

**4.3.7 Pitch Cylinder.** The pitch cylinder of the threaded portion of the GO segments or rolls shall be straight and round within the X gage pitch diameter limits specified.

**4.3.8 Lead, Pitch, and Half-Angle Variations.** Lead, pitch, and half-angle variations shall be within the limits specified. See Table 6.

**4.3.9 Identification.** The assembled gage should be marked by the nominal size, threads/in., thread series, GO, PD, and pitch diameter.

EXAMPLE:
1/4-20 (or .250-20) UNC GO PD.2175

## TABLE 5 SPECIFICATIONS AND FORMAT FOR TABLES 10 AND 11 — LIMITS OF SIZE OF THREAD-SETTING GAGES FOR UNIFIED THREAD WORKING GAGES

| | | | | | |
|---|---|---|---|---|---|
| Nominal Size and Threads/in. | | | | 1 | (To be specified) |
| Series Designation and Tolerance Class | | | | 2 | Of external thread to be checked by gage set with plug |
| Full-Form and Truncated Setting Plugs | Plug for GO | Major diameter | Truncated* | 3 | Max. major diam. of external thread (equals min. major diam. of full portion of GO setting plug) minus ($0.060\sqrt[3]{p^2} + 0.017p$); gage tolerance minus |
| | | | Full-form | 4 | Max. major diameter of external thread; gage tolerance plus |
| | | Pitch diameter | | 5 | Max. pitch diameter of external thread; gage tolerance minus |
| | Plug for NOT GO (LO) | Major diameter | Truncated* (Note 1) | 6 | Min. pitch diameter of external thread plus $H/2$; gage tolerance minus |
| | | | Full-form | 7 | Max. major diameter of external thread provided major diameter crest width shall not be less than 0.001 in. (0.0009 in. truncation). Apply W tolerance plus for max. size except that for 0.001 in. crest width apply tolerance minus. For the 0.001 in. crest width, major diameter is equal to maximum major diameter of external thread plus $0.216506p$ minus the sum of external thread pitch diameter tolerance and 0.0017 in. |
| | | Pitch diameter | | 8 | Min. pitch diameter of external thread; gage tolerance plus |
| Solid Thread-Setting Rings for Snap and Indicating Gages | | Ring for GO | Pitch diameter (Note 2) | 9 | Min. pitch diameter of internal thread; W gage tolerance plus |
| | | | Minor diameter | 10 | Min. minor diameter of internal thread; W gage tolerance minus |
| | | Ring for NOT GO (HI) | Pitch diameter (Note 2) | 11 | Max. pitch diameter of internal thread; W gage tolerance minus |
| | | | Minor diameter | 12 | Max. minor diameter of internal thread; W gage tolerance minus |
| Series Designation and Tolerance Class | | | | 13 | Of internal thread to be checked by gage set with ring |

* Indicated rows apply to truncated setting plugs only.

NOTES:

(1) Truncated portion is required when optional sharp root profile in Figs. 18, 19, 20, 21, and 26 is used.

(2) Tolerances greater than W tolerance for pitch diameter are acceptable when internal indicating or snap gage can accomodate a greater tolerance and when agreed upon by supplier and user.

## TABLE 6 X GAGE TOLERANCES FOR THREAD GAGES

| Threads/in. | Tolerance on Lead, in. (Notes 1, 3) | Tolerance on Half-Angle of Thread, deg. ± min. | Tolerance on Major or Minor Diameters (Note 4) | | Tolerance on Pitch Diameter (Notes 2, 4) | | | |
|---|---|---|---|---|---|---|---|---|
| | | | To and Including 4 in. Diam. | Above 4 in. Diam. | To and Including 1½ in. Diam. | Above 1½ in. to 4 in. Diam. | Above 4 in. to 8 in. Diam. | Above 8 in. to 12 in. Diam. (Note 2) |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 80 | 0.0002 | 0 30 | 0.0003 | . . . | 0.0002 | . . . | . . . | . . . |
| 72 | .0002 | 0 30 | .0003 | . . . | .0002 | . . . | . . . | . . . |
| 64 | .0002 | 0 30 | .0004 | . . . | .0002 | . . . | . . . | . . . |
| 56 | .0002 | 0 30 | .0004 | . . . | .0002 | 0.0003 | . . . | . . . |
| 48 | .0002 | 0 30 | .0004 | . . . | .0002 | .0003 | . . . | . . . |
| 44 | .0002 | 0 20 | .0004 | . . . | .0002 | .0003 | . . . | . . . |
| 40 | .0002 | 0 20 | .0004 | . . . | .0002 | .0003 | . . . | . . . |
| 36 | .0002 | 0 20 | .0004 | . . . | .0002 | .0003 | . . . | . . . |
| 32 | .0003 | 0 15 | .0005 | 0.0007 | .0003 | .0004 | 0.0005 | 0.0006 |
| 28 | .0003 | 0 15 | .0005 | .0007 | .0003 | .0004 | .0005 | .0006 |
| 27 | .0003 | 0 15 | .0005 | .0007 | .0003 | .0004 | .0005 | .0006 |
| 24 | .0003 | 0 15 | .0005 | .0007 | .0003 | .0004 | .0005 | .0006 |
| 20 | .0003 | 0 15 | .0005 | .0007 | .0003 | .0004 | .0005 | .0006 |
| 18 | .0003 | 0 10 | .0005 | .0007 | .0003 | .0004 | .0005 | .0006 |
| 16 | .0003 | 0 10 | .0006 | .0009 | .0003 | .0004 | .0006 | .0008 |
| 14 | .0003 | 0 10 | .0006 | .0009 | .0003 | .0004 | .0006 | .0008 |
| 13 | .0003 | 0 10 | .0006 | .0009 | .0003 | .0004 | .0006 | .0008 |
| 12 | .0003 | 0 10 | .0006 | .0009 | .0003 | .0004 | .0006 | .0008 |
| 11½ | .0003 | 0 10 | .0006 | .0009 | .0003 | .0004 | .0006 | .0008 |
| 11 | .0003 | 0 10 | .0006 | .0009 | .0003 | .0004 | .0006 | .0008 |
| 10 | .0003 | 0 10 | .0006 | .0009 | .0003 | .0004 | .0006 | .0008 |
| 9 | .0003 | 0 10 | .0007 | .0011 | .0003 | .0004 | .0006 | .0008 |
| 8 | .0004 | 0 5 | .0007 | .0011 | .0004 | .0005 | .0006 | .0008 |
| 7 | .0004 | 0 5 | .0007 | .0011 | .0004 | .0005 | .0006 | .0008 |
| 6 | .0004 | 0 5 | .0008 | .0013 | .0004 | .0005 | .0006 | .0008 |
| 5 | .0004 | 0 5 | .0008 | .0013 | . . . | .0005 | .0006 | .0008 |
| 4½ | .0004 | 0 5 | .0008 | .0013 | . . . | .0005 | .0006 | .0008 |
| 4 | .0004 | 0 5 | .0009 | .0015 | . . . | .0005 | .0006 | .0008 |

NOTES:
(1) Allowable variation in lead between any two threads shall not be farther apart than the length of the standard gage that is shown in ANSI B47.1.
(2) Above 12 in., the tolerance is directly proportional to the tolerance in col. 9, in the ratio of the diameter to 12 in.
(3) See 5.13.9.
(4) Tolerances apply to designated size of thread. Apply tolerances in accordance with Table 4.

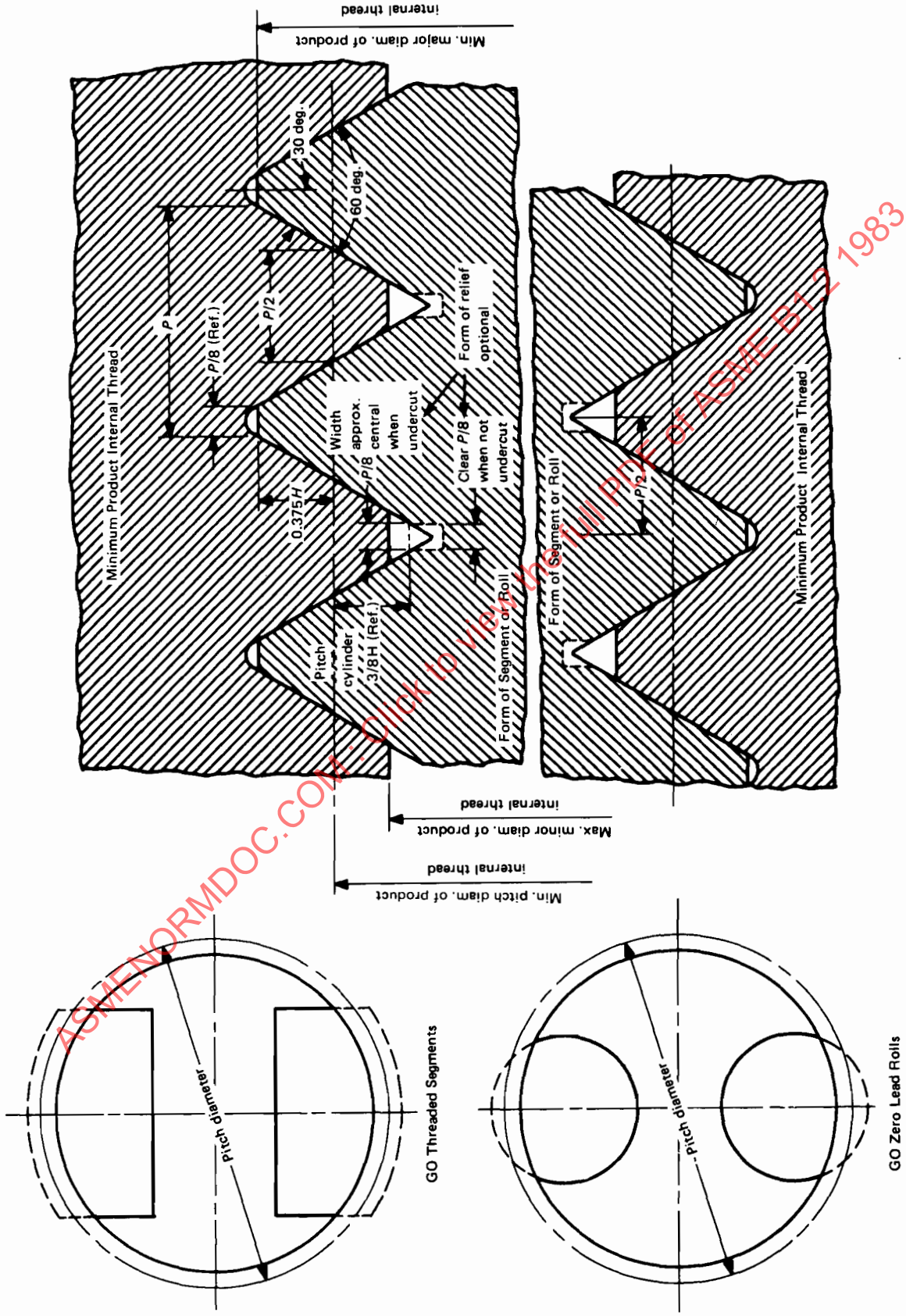



FIG. 4 THREAD SNAP GAGES — MAXIMUM-MATERIAL GO FUNCTIONAL LIMIT

### 4.4 Thread Snap Gages — NOT GO (HI) Segments or Rolls (Table 2 — Gages 2.2 and 2.4)

**4.4.1 Purpose and Use.** The thread snap gage with two NOT GO (HI) segments or two NOT GO (HI) rolls inspects the NOT GO (HI) functional diameter limit, $B_1$, of product internal thread. The setting of the NOT GO (HI) segments or rolls represents the maximum functional diameter limit of the product internal thread. In applying the thread snap limit gage, the NOT GO (HI) functional diameter is acceptable when gaging elements do not pass the product thread.

Internal thread snap gages by design must have an outside diameter of gaging elements below minor diameter of internal thread in order to enter. The gage checks the NOT GO functional diameter limit by sensing the resistance to contact after being set to master.

The NOT GO (HI) thread snap gage will also indicate out-of-roundness of the pitch cylinder for 180 deg. ovality by using the gage at different diametral locations on internal thread. The NOT GO (HI) thread snap gage will also check for taper of pitch cylinder by using the gage at different locations axially on internal thread.

**4.4.2 Basic Design.** In order that the NOT GO (HI) thread snap gage may effectively check the NOT GO (HI) functional diameter limit, the flank contact is reduced by truncating the thread on segments and rolls. As the design of the segments and rolls are different with each gage manufacturer, the number of threads engaged in product thread will vary. Usually, the number of pitches engaged is approximately two. Internal product threads less than 3/16 in. in diameter are not practical to check with snap gages.

**4.4.3 Thread Form.** The specifications for thread form are summarized in Table 4 and Fig. 5.

**4.4.4 Thread Crests.** The maximum major diameter of the NOT GO (HI) segments and rolls shall be equal to the pitch diameter of segment or roll plus $0.5H$ with the gage tolerance minus. This corresponds to a width of flat at the crest equal to $0.25p$. See Table 4.

**4.4.5 Thread Roots.** The minor diameter of the NOT GO (HI) segments and rolls shall be cleared beyond a $P/8$ width of flat by an extension toward a sharp vee of the sides of the thread or by an undercut to any dimension no wider than $P/4$. Undercut is to be approximately central with the center line of the thread groove. See Fig. 5.

**4.4.6 Runout.** The pitch and major cylinders of the threaded portion of the NOT GO (HI) segments or rolls shall not exceed the runout as determined by measurements of runout (full-indicator reading) on each gaging member, with respect to the pitch cylinder. Runout shall not exceed one-half the X gage major diameter tolerance.

**4.4.7 Pitch Cylinder.** The pitch cylinder of the threaded portion of the NOT GO (HI) segments or rolls shall be round within the X gage pitch diameter limits specified.

**4.4.8 Lead, Pitch, and Half-Angle Variations.** Lead, pitch, and half-angle variations shall be within the limits specified. See Table 6.

**4.4.9 Identification.** The assembled gage should be marked by the nominal size, threads/in., thread series, class, NOT GO, PD, and pitch diameter.

EXAMPLE:
1/4-20 (or .250-20) UNC-2B NOT GO PD.2224

### 4.5 Thread Snap Gages — Minimum Material: Pitch Diameter Cone and Vee (Table 2 — Gage 2.5)

**4.5.1 Purpose and Use.** The thread snap gage with two segments or two rolls, both made to cone and vee design as shown in Fig. 6, inspects the minimum-material limit pitch diameter, $C_1$, of the product internal thread.

Internal thread snap gages by design must have an outside diameter of gaging elements below minor diameter of internal thread in order to enter. The gage checks the minimum-material pitch diameter limit by sensing the resistance of contact after being set to master.

The cone and vee snap gage can check roundness of pitch cylinder for 180 deg. ovality by using the gage at different diametral locations on internal thread.

The cone and vee snap gage can check taper of pitch cylinder by using the gage at different locations axially on internal thread.

**4.5.2 Basic Design.** The segments are usually made having a surface contact slightly above the pitch line near the center of the flank. The rolls are made with a point or line contact approximately at the pitch line, depending upon the angle variations of the

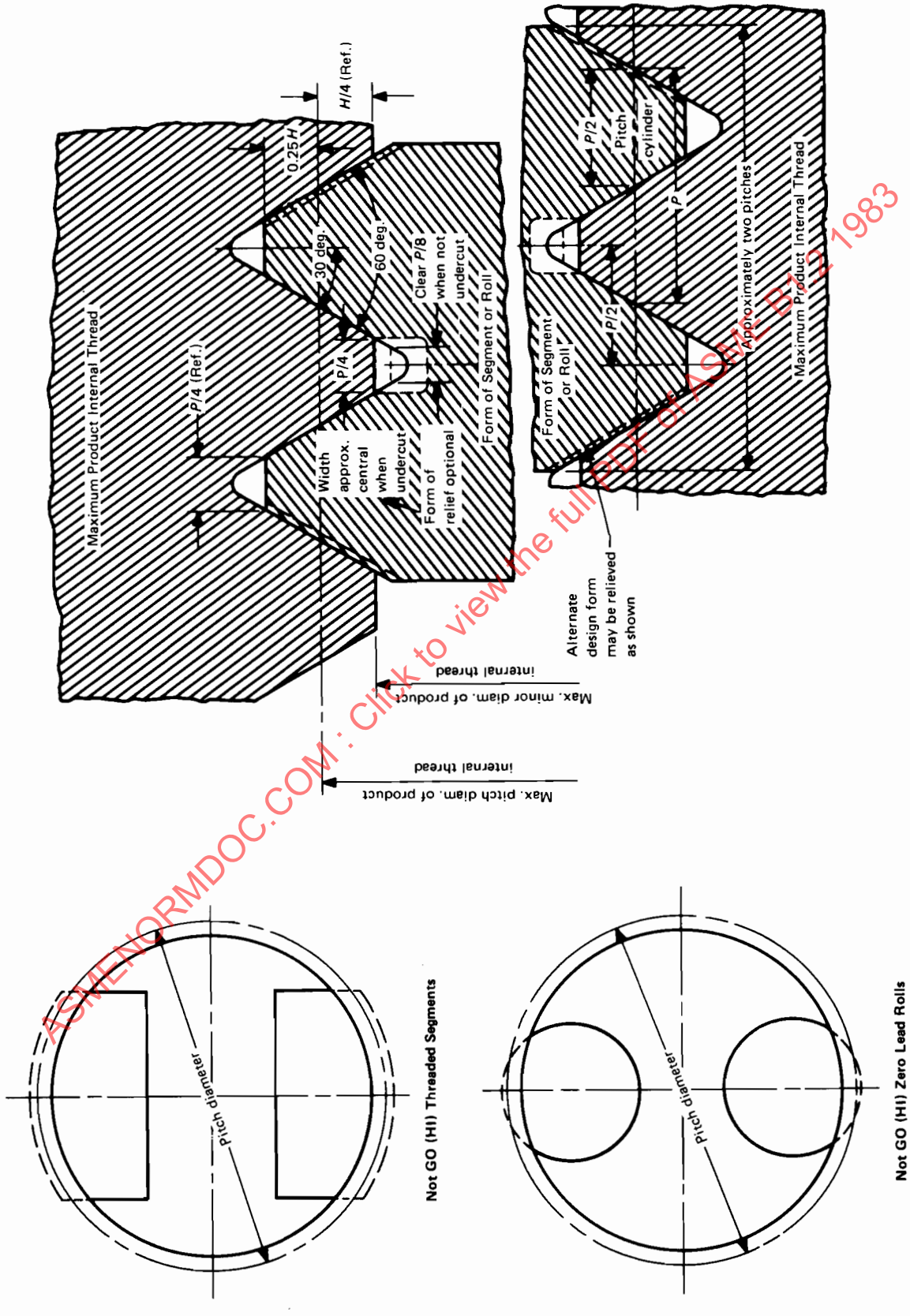



FIG. 5 THREAD SNAP GAGES — NOT GO (HI) FUNCTIONAL DIAMETER LIMIT

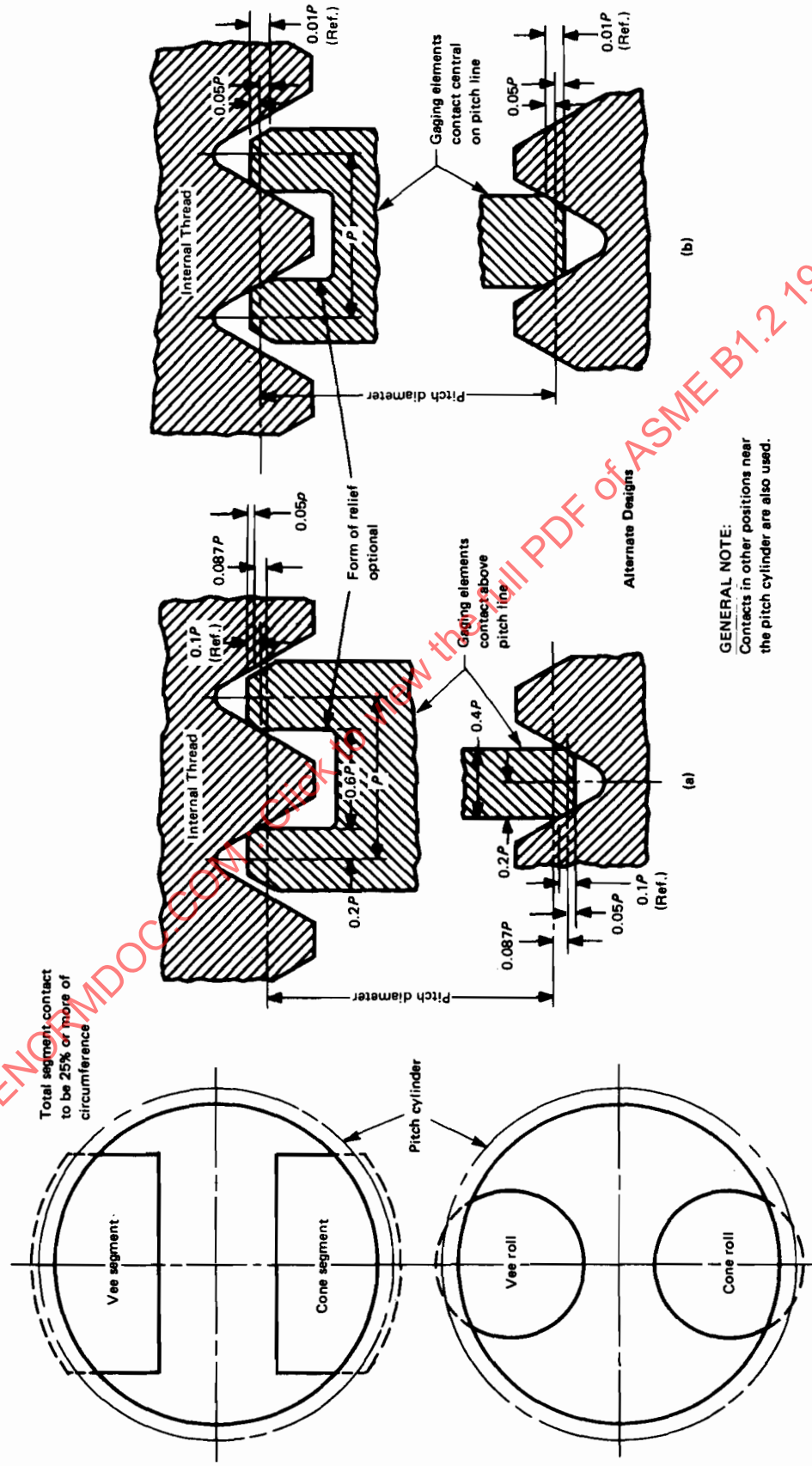



FIG. 6 THREAD SNAP GAGES — MINIMUM-MATERIAL PITCH DIAMETER LIMIT — CONE AND VEE

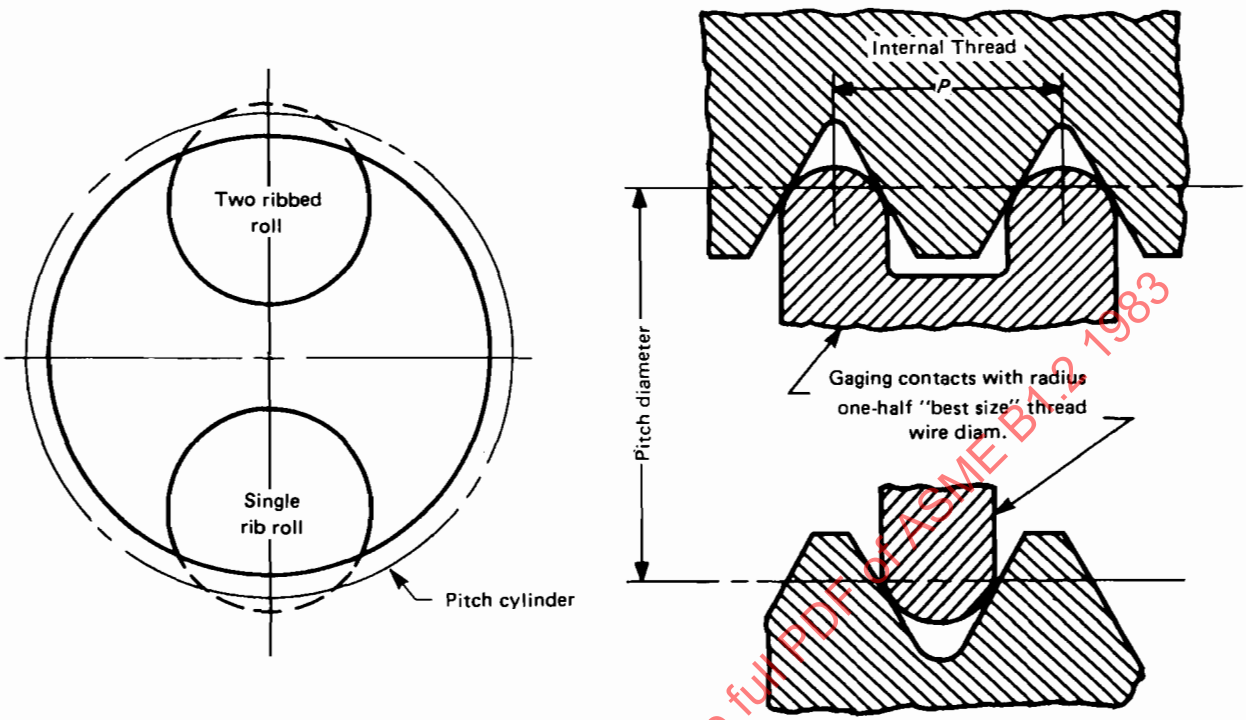



**FIG. 7 THREAD SNAP GAGES — MINIMUM-MATERIAL THREAD GROOVE DIAMETER LIMIT**



thread flanks. See Fig. 6 for details. Internal product threads less than 3/16 in. in diameter are not practical to check with snap gages.

**4.5.3 Thread Form.** The specifications for thread form, thread crests, and thread roots are summarized in Fig. 6.

**4.5.4 Identification.** The assembled gage should be marked by the nominal size, threads/in., thread series, class, PD, and pitch diameter.

EXAMPLE:
1/4-20 (or .250-20) UNC-2B PD.2224

## 4.6 Thread Snap Gages — Minimum Material: Thread Groove Diameter Type (Table 2 — Gage 2.6)

**4.6.1 Purpose and Use.** The thread snap gage with two rolls with "best size" thread wire radius contacts inspects the minimum-material limit pitch diameter, $D_1$, of the product internal thread.

Internal thread snap gages by design must have an outside diameter of gaging elements below minor diameter of internal thread in order to enter. The gage checks the minimum-material pitch diameter limit by sensing the resistance of contact after being set to master.

The roll thread snap gage will check roundness of the pitch cylinder for 180 deg. ovality by using the gage at different diametral locations.

Also, the roll thread snap gage will check taper of the pitch cylinder by using the gage at different locations axially.

**4.6.2 Basic Design.** The "best size" thread wire radius contacts on the rolls check the threads at the pitch cylinder. Ribs on roll contacts are made one pitch apart. Internal product threads less than 3/16 in. in diameter are not practical to check with snap gages.

**4.6.3 Thread Form.** The specifications for the form on gage rolls are summarized in Fig. 7.

**4.6.4 Identification.** The assembled gage with rolls should be marked with the nominal size, threads/in., thread series, class, PD, and pitch diameter.

EXAMPLE:
1/4-20 (or .250-20) UNC-2B PD.2224

### 4.7 Thread-Setting Solid Ring Gages

**4.7.1 Purpose and Use.** Thread-setting ring gages are used for setting internal thread indicating and snap gages. GO thread-setting ring gages are made to the maximum-material limit of the internal thread specification and NOT GO (HI) thread-setting rings to the minimum-material limit. Setting rings under 3/16 in. diameter are too small to be practical.

**4.7.2 Gage Blanks.** GO and NOT GO (HI) solid thread ring gage blanks have been standardized for various size ranges and pitches. (See ANSI B47.1.) Length of gage thread is a minimum of four pitches.

**4.7.3** The GO and NOT GO (HI) thread-setting gage threads are stated in detail below and are summarized in Tables 5, 7, and 11, and Fig. 8.

**4.7.4 Thread Crests**

**4.7.4.1** The minor diameter of the GO setting ring gage is equal to the minimum minor diameter of the internal thread.

**4.7.4.2** The minor diameter of the NOT GO (HI) setting ring gage is equal to the maximum minor diameter of the internal thread.

**4.7.5 Thread Roots**

**4.7.5.1** The major diameter of the GO setting ring gage shall be cleared beyond $P/8$ width of flat by either an extension of the flanks toward a sharp vee or by a clearance cut of substantially $P/8$ width and approximately central.

**4.7.5.2** The major diameter of the NOT GO (HI) setting ring gage shall be cleared by a clearance cut of substantially $0.25p$ width and approximately central. The form is optional; it may clear a $P/8$ flat if not undercut.

**4.7.6 Runout of Pitch and Minor Diameter Cylinders for Sizes 3/16 in. and Larger.** The pitch and minor cylinders of setting ring gages shall not exceed the runout as stated hereinafter. The permissible minimum effective minor diameter as determined by runout (full-indicator movement) with respect to the pitch cylinder subtracted from measured minor diameter shall not be less than the specified minimum minor diameter minus the sum of the W gage tolerances for pitch and minor diameter for GO setting gages, and minus twice the sum for NOT GO (HI) setting gages.

**4.7.7 Pitch Cylinder.** Conformance of these elements is normally determined by the manufacturing of the setting ring gages to the applicable setting plug gage.

**4.7.8 Pitch Diameter Limitation of Taper.** The taper shall be within gage pitch diameter limits.

**4.7.9 Lead and Half-Angle.** Lead and half-angle variations shall be within limits specified in Table 7.

**4.7.10 Incomplete Threads.** The feather edge at both ends of the thread ring gage shall be removed. On gages larger than 1/2 in. nominal size, or having pitches coarser than 20 threads/in., not more than one complete turn of the end threads shall be removed to obtain a full-thread blunt start. On gages 1/2 in. nominal size and smaller, or having pitches of 20 threads/in. or finer, a 60 deg. chamfer from the axis of the gage is acceptable in lieu of the blunt start.

**4.7.11 Identification.** The GO and NOT GO (HI) thread-setting ring gages should be identified by nominal size, threads/in., thread series, GO or NOT GO, class on NOT GO; SETTING, PD, and pitch diameter.

EXAMPLE:
1/4-20 (or .250-20) UNC GO SETTING PD.2175
1/4-20 (or .250-20) UNC-2B NOT GO SETTING PD.2224

### 4.8 Plain Plug, Snap, and Indicating Gages to Check Minor Diameter of Internal Thread

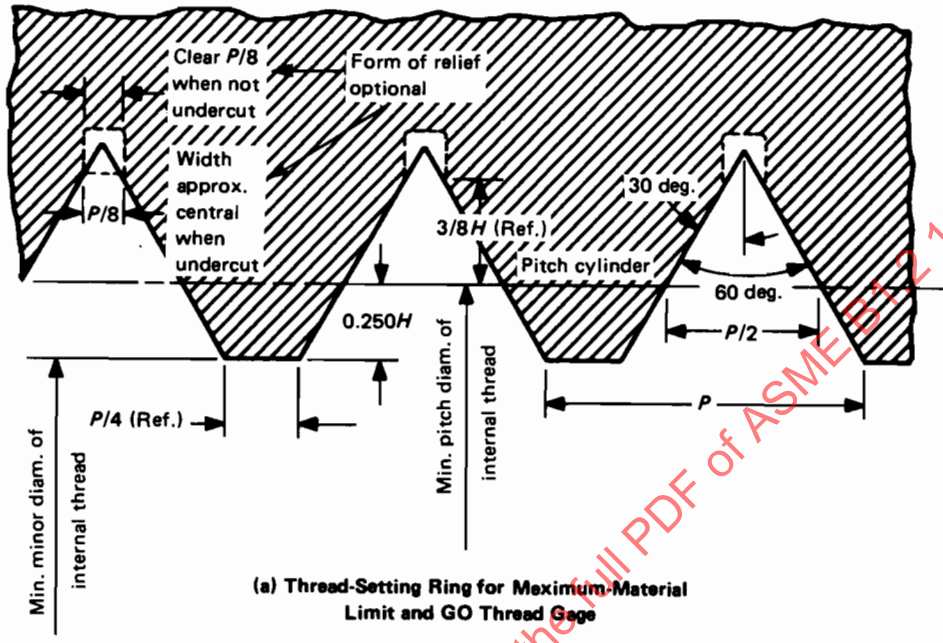
**4.8.1 Purpose and Use.** The GO and NOT GO (HI) thread gages of all designs are cleared at the root but do not check the minor diameter of the product internal thread. Accordingly, the following paragraphs (4.8.1 through 4.8.6) describe types of plain diameter gage or precision instruments used to check the maximum- and minimum-material limits of the minor diameter.

**4.8.2 GO and NOT GO Plain Cylindrical Plug Gages (Table 2 — Gage 3.1).** Plug gages shall be made to Z tolerances and as shown in Fig. 9. GO shall be made to plus tolerance; NOT GO shall be made to minus tolerance. GO cylindrical plug gage must enter and pass through the length of the product without force. NOT GO cylindrical plug must not enter. See Table 8 for gage tolerances.

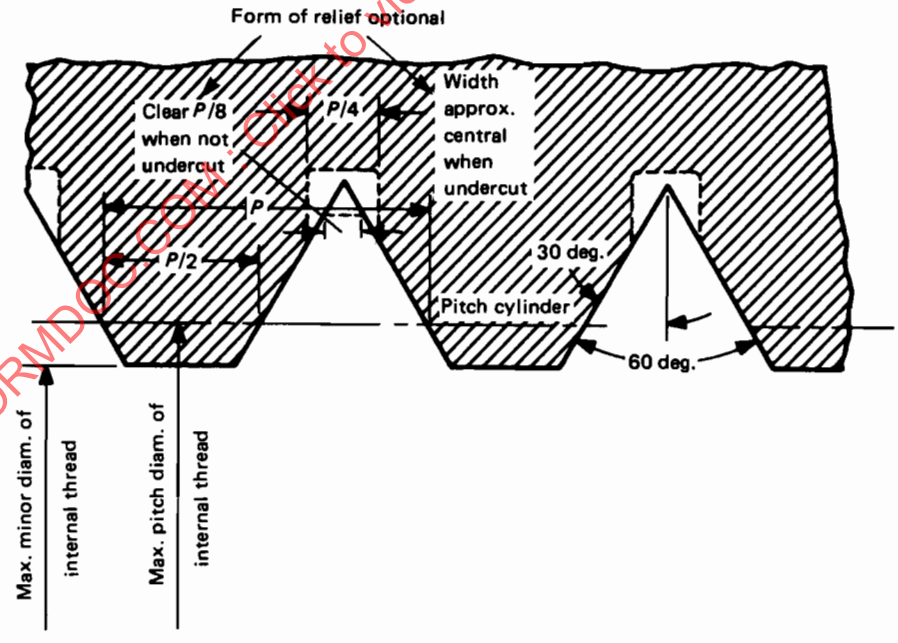
## TABLE 7 W GAGE TOLERANCES FOR THREAD GAGES

| Threads/in. | Tolerance on Lead[1,3] | | Tolerance on Half-Angle of Thread, deg. ± min. | | Tolerance on Major or Minor Diameters[4] | | | Tolerance on Pitch Diameter[2, 4] | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | To and Including ½ in. Diam. | Above ½ in. Diam. | | | To and Including ½ in. Diam. | Above ½ in. to 4 in. Diam. | Above 4 in. Diam. | To and Including ½ in. Diam. | Above ½ in. to 1½ in. Diam. | Above 1½ in. to 4 in. Diam. | Above 4 in. to 8 in. Diam. | Above 8 in. to 12 in. Diam.[2] |
| 1 | 2 | 3 | 4 | | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 80 | 0.0001 | 0.00015 | 0 | 20 | 0.0003 | 0.0003 | . . . | 0.0001 | 0.00015 | . . . | . . . | . . . |
| 72 | .0001 | .00015 | 0 | 20 | .0003 | .0003 | . . . | .0001 | .00015 | . . . | . . . | . . . |
| 64 | .0001 | .00015 | 0 | 20 | .0003 | .0004 | . . . | .0001 | .00015 | . . . | . . . | . . . |
| 56 | .0001 | .00015 | 0 | 20 | .0003 | .0004 | . . . | .0001 | .00015 | 0.0002 | . . . | . . . |
| 48 | .0001 | .00015 | 0 | 18 | .0003 | .0004 | . . . | .0001 | .00015 | .0002 | . . . | . . . |
| 44 | .0001 | .00015 | 0 | 15 | .0003 | .0004 | . . . | .0001 | .00015 | .0002 | . . . | . . . |
| 40 | .0001 | .00015 | 0 | 15 | .0003 | .0004 | . . . | .0001 | .00015 | .0002 | . . . | . . . |
| 36 | .0001 | .00015 | 0 | 12 | .0003 | .0004 | . . . | .0001 | .00015 | .0002 | . . . | . . . |
| 32 | .0001 | .00015 | 0 | 12 | .0003 | .0005 | 0.0007 | .0001 | .00015 | .0002 | 0.00025 | 0.0003 |
| 28 | .00015 | .00015 | 0 | 8 | .0005 | .0005 | .0007 | .0001 | .00015 | .0002 | .00025 | .0003 |
| 27 | .00015 | .00015 | 0 | 8 | .0005 | .0005 | .0007 | .0001 | .00015 | .0002 | .00025 | .0003 |
| 24 | .00015 | .00015 | 0 | 8 | .0005 | .0005 | .0007 | .0001 | .00015 | .0002 | .00025 | .0003 |
| 20 | .00015 | .00015 | 0 | 8 | .0005 | .0005 | .0007 | .0001 | .00015 | .0002 | .00025 | .0003 |
| 18 | .00015 | .00015 | 0 | 8 | .0005 | .0005 | .0007 | .0001 | .00015 | .0002 | .00025 | .0003 |
| 16 | .00015 | .00015 | 0 | 8 | .0006 | .0006 | .0009 | .0001 | .0002 | .00025 | .0003 | .0004 |
| 14 | .0002 | .0002 | 0 | 6 | .0006 | .0006 | .0009 | .0015 | .0002 | .00025 | .0003 | .0004 |
| 13 | .0002 | .0002 | 0 | 6 | .0006 | .0006 | .0009 | .0015 | .0002 | .00025 | .0003 | .0004 |
| 12 | .0002 | .0002 | 0 | 6 | .0006 | .0006 | .0009 | .0015 | .0002 | .00025 | .0003 | .0004 |
| 11½ | .0002 | .0002 | 0 | 6 | .0006 | .0006 | .0009 | .0015 | .0002 | .00025 | .0003 | .0004 |
| 11 | .0002 | .0002 | 0 | 6 | .0006 | .0006 | .0009 | .0015 | .0002 | .00025 | .0003 | .0004 |
| 10 | . . . | .00025 | 0 | 6 | . . . | .0006 | .0009 | . . . | .0002 | .00025 | .0003 | .0004 |
| 9 | . . . | .00025 | 0 | 6 | . . . | .0007 | .0011 | . . . | .0002 | .00025 | .0003 | .0004 |
| 8 | . . . | .00025 | 0 | 5 | . . . | .0007 | .0011 | . . . | .0002 | .00025 | .0003 | .0004 |
| 7 | . . . | .0003 | 0 | 5 | . . . | .0007 | .0011 | . . . | .0002 | .00025 | .0003 | .0004 |
| 6 | . . . | .0003 | 0 | 5 | . . . | .0008 | .0013 | . . . | .0002 | .00025 | .0003 | .0004 |
| 5 | . . . | .0003 | 0 | 4 | . . . | .0008 | .0013 | . . . | . . . | .00025 | .0003 | .0004 |
| 4½ | . . . | .0003 | 0 | 4 | . . . | .0008 | .0013 | . . . | . . . | .00025 | .0003 | .0004 |
| 4 | . . . | .0003 | 0 | 4 | . . . | .0009 | .0015 | . . . | . . . | .00025 | .0003 | .0004 |

NOTES:
(1) Allowable variation in lead between any two threads shall not be farther apart than the length of the standard gage that is shown in ANSI B47.1.
(2) Above 12 in., the tolerance is directly proportional to the tolerance in col. 12, in the ratio of the diameter to 12 in.
(3) See 5.13.9.
(4) Tolerances apply to designated size of thread. Apply tolerance in accordance with Table 5.




(a) Thread-Setting Ring for Meximum-Material Limit and GO Thread Gage




(b) Thread-Setting Ring for Minimum-Material Limit and NOT GO (HI) Thread Gage

FIG. 8 THREAD FORM OF SOLID THREAD-SETTING RING GAGES

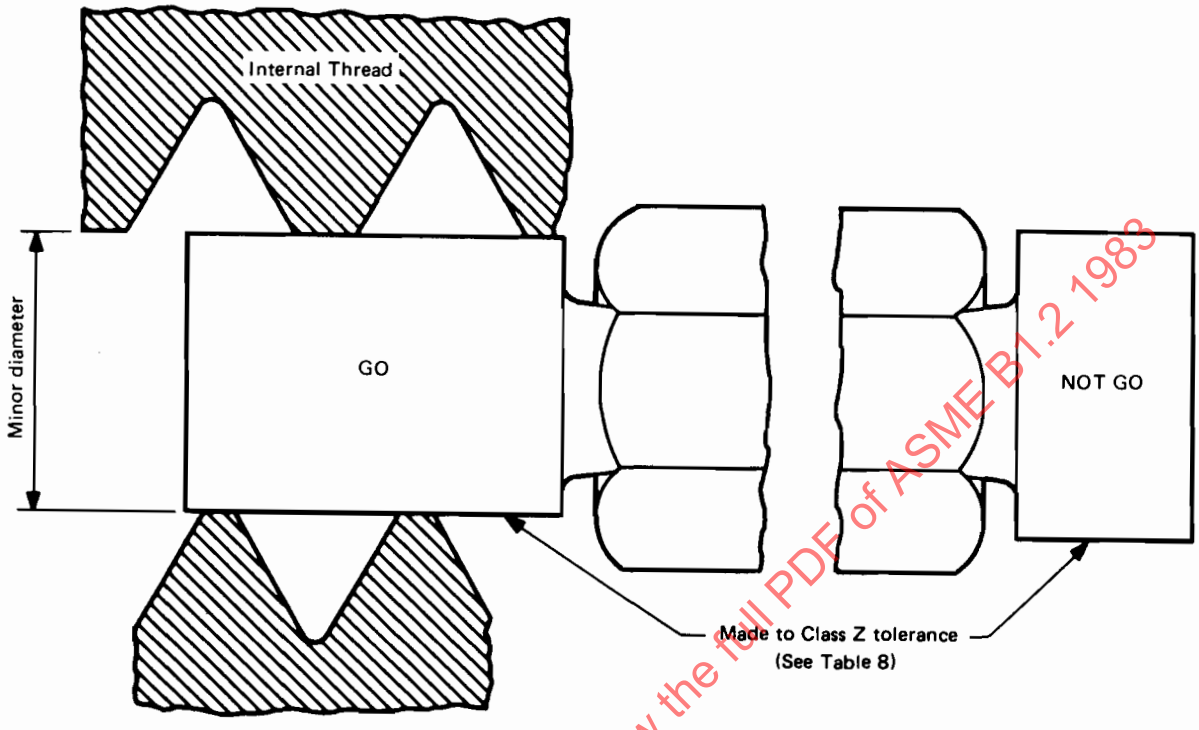



**FIG. 9 MINOR DIAMETER LIMIT — CYLINDRICAL PLUG GAGES**



The design of the GO and NOT GO cylindrical plain plug members has been standardized for various sizes, ranges, and pitches. See ANSI B47.1.

**4.8.3 Identification.** The cylindrical gage shall be marked with the nominal size, threads/in., thread series, GO or NOT GO, class on NOT GO, and minor diameter limits.

EXAMPLE:
1/4-20 (or .250-20) UNC GO.1960
1/4-20 (or .250-20) UNC-2B NOT GO.2070

**4.8.4 Precision Instruments (Table 2 — Gage 13).** Precision instruments such as dial calipers, inside micrometer calipers, pocket slide calipers, and vernier inside calipers can also be used to measure the minor diameter of product internal thread.

**4.8.5 Snap (Table 2 — Gages 3.3 and 3.5) and Indicating Gages (Table 2 — Gages 3.3, 3.5, and 5.2): Plain Diameter Gages for Checking Minor Diameter of Internal Thread.** Gages are made to the individual gage manufacturer's standard with gaging contacts (segments or rolls) at 120 deg. or 180 deg. Size range for segment type is approximately 3/16 in. to 2-1/2 in. in diameter. Above 2-1/2 in., gage contacts are plain diameter rolls. Another design is the use of prism fingers for 3/16 in. size and larger with contacts at 180 deg. See Fig. 10 for details. In each design, the gages are set with cylindrical ring gages, outside micrometers, vernier calipers, or a gap made with gage blocks and jaw accessories. Gage contacts are collapsed into tapped hole and released to contact product minor diameter. Dial indicator gages give the size of the product between minimum and maximum tolerance. Snap gages check the minor diameter limits by sensing the resistance at contact after being set to master.

**4.8.6 Identification.** After contacts have been assembled in the snap or indicating gage, the assembled gage should be tagged with the nominal size, threads/in., thread series, class, and minor diameter limits.

EXAMPLE:
1/4-20 (or .250-20) UNC-2B.1960 — .2070

**TABLE 8 GAGE TOLERANCES FOR PLAIN CYLINDRICAL GAGES**

| Size Range, in. | | Tolerances, in. (Note 1) | | | | |
|---|---|---|---|---|---|---|
| Above | To and Including | XX | X | Y | Z (Note 2) | ZZ |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 0.020 | 0.825 | 0.00002 | 0.00004 | 0.00007 | 0.00010 | 0.00020 |
| .825 | 1.510 | 0.00003 | 0.00006 | 0.00009 | 0.00012 | 0.00024 |
| 1.510 | 2.510 | 0.00004 | 0.00008 | 0.00012 | 0.00016 | 0.00032 |
| 2.510 | 4.510 | 0.00005 | 0.00010 | 0.00015 | 0.00020 | 0.00040 |
| 4.510 | 6.510 | 0.000065 | 0.00013 | 0.00019 | 0.00025 | 0.00050 |
| 6.510 | 9.010 | 0.00008 | 0.00016 | 0.00024 | 0.00032 | 0.00064 |
| 9.010 | 12.010 | 0.00010 | 0.00020 | 0.00030 | 0.00040 | 0.00080 |

NOTES:
(1) Tolerances apply to actual diameter of plug or ring. Apply tolerances in accordance with Table 4. Symbols XX, X, Y, Z, and ZZ are standard gage tolerance classes.
(2) Used as tolerance on plain cylindrical plug and ring gages to check minor diameter for internal threads and outside diameter for external threads. Also used for masters for setting indicating thread gages where design permits.



### 4.9 Snap (Table 2 — Gage 3.4) and Indicating (Table 2 — Gage 5.1) Gages to Check Major Diameter of Internal Thread

**4.9.1 Purpose and Use.** The minimum major diameter limit of the product internal thread is considered acceptable when the product thread accepts GO gages. If further gaging is required, 4.9.2 describes the types of gages used to check the maximum- and minimum-material limits of the major diameter.

**4.9.2 Snap and Indicating Major Diameter Gages.** Gages are made to manufacturer's standard with 55 deg. maximum gage contacts at 180 deg. in the form of relieved thread contacts. See Fig. 11, sketch (a) for segment type. Size ranges from approximately 3/16 in. to 2-1/2 in. Above 2-1/2 in., gage contacts are thread relieved rolls at 120 deg. See Fig. 11, sketch (b). Another design is the use of conical contact on one finger and two "best size" thread balls on other contact as shown in Fig. 11, sketch (c). In each design, the indicating gages are set with cylindrical ring gages, outside micrometers, vernier calipers, or gap made with gage blocks and jaw accessories. Gage contacts are collapsed into tapped hole and released to contact product major diameter. Dial indicator gages give the size of the product between minimum and maximum tolerances. Snap gage checks the major diameter limit by sensing the resistance at contact after being set to master.

**4.9.3 Identification.** After contacts have been assembled in the snap or indicating gage, the assembled gage should be tagged with the nominal size, threads/in., thread series major diameter limits, and MAJOR DIAMETER INTERNAL.

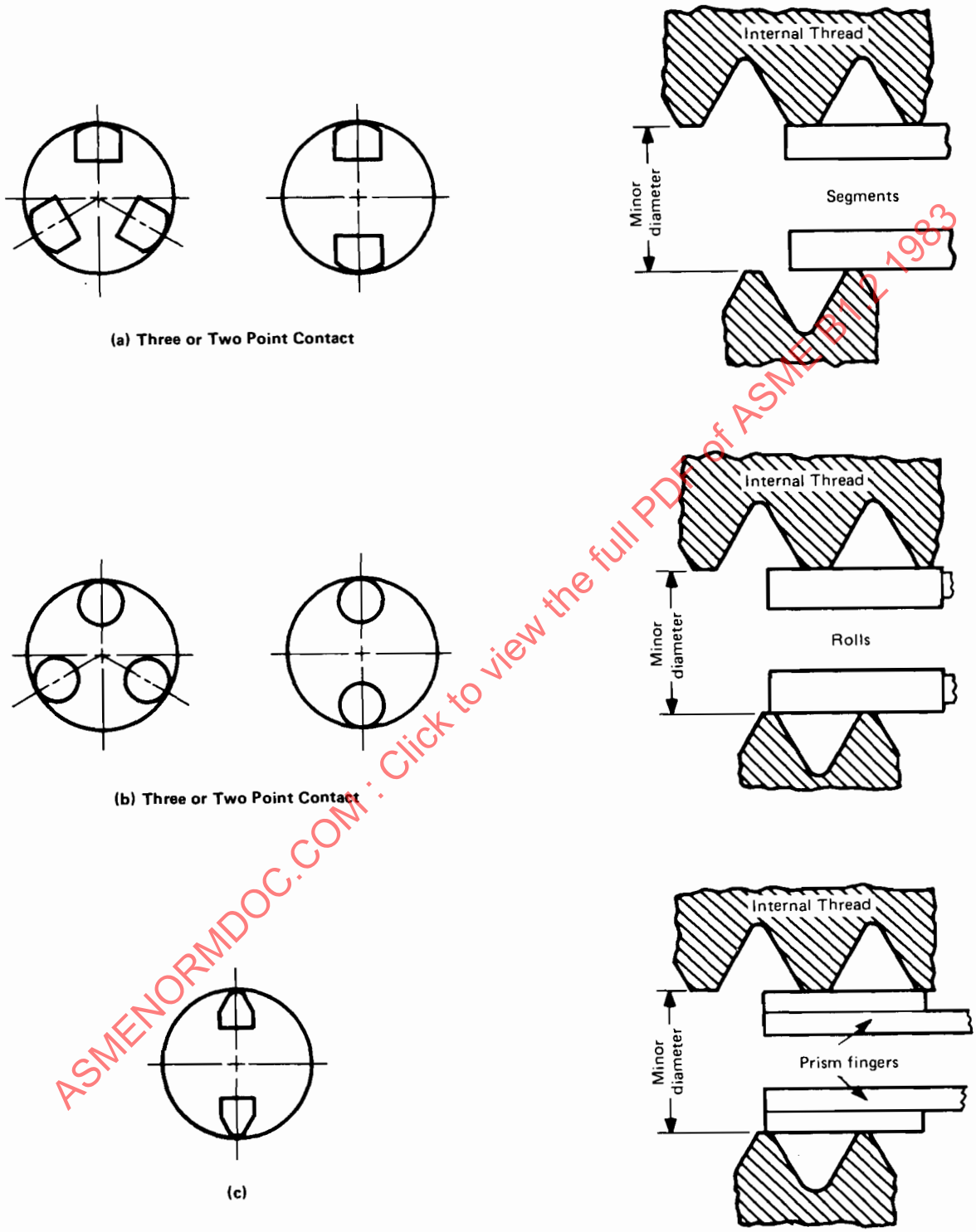
EXAMPLE:
1/4-20 (or .250-20) UNC
GO.250 NOT GO (Customer's Specifications)
MAJOR DIAMETER INTERNAL

### 4.10 Functional Indicating Thread Gages for Internal Thread (Table 2 — Gages 4.1 and 4.3)

**4.10.1 Purpose and Use.** The GO indicating thread gage (4.1 and 4.3) inspects the maximum-material GO functional limit and size, $A_1$ and $A_2$, and the NOT GO (HI) functional diameter limit and size, $B_1$ and $B_2$, of product internal thread. By the use of segments, rolls, or fingers, the gage is also used to check roundness of pitch cylinder. Some types of indicating gages are set by using thread-setting ring gages. See 4.7. Other types may be set with plain ring gages or with gage blocks and jaws. Readings indicate the position of product thread within the tolerance range.

**4.10.2 Basic Design.** Indicating gages have three contacts at 120 deg. or two contacts at 180 deg. Gages are made with segments, rolls, or fingers with the length of the functional GO gaging elements equal to the length of the standard GO thread plug gage. Internal product threads less than 3/16 in. in diameter are not practical to check with indicating gages.

**4.10.3 Thread Form.** The specifications for thread form on GO functional segments, rolls, or fingers are summarized in Table 4 and Fig. 12.




(a) Three or Two Point Contact

(b) Three or Two Point Contact

(c)

**FIG. 10 INDICATING PLAIN DIAMETER GAGES — MAX.-MIN. MINOR DIAMETER LIMIT AND SIZE**

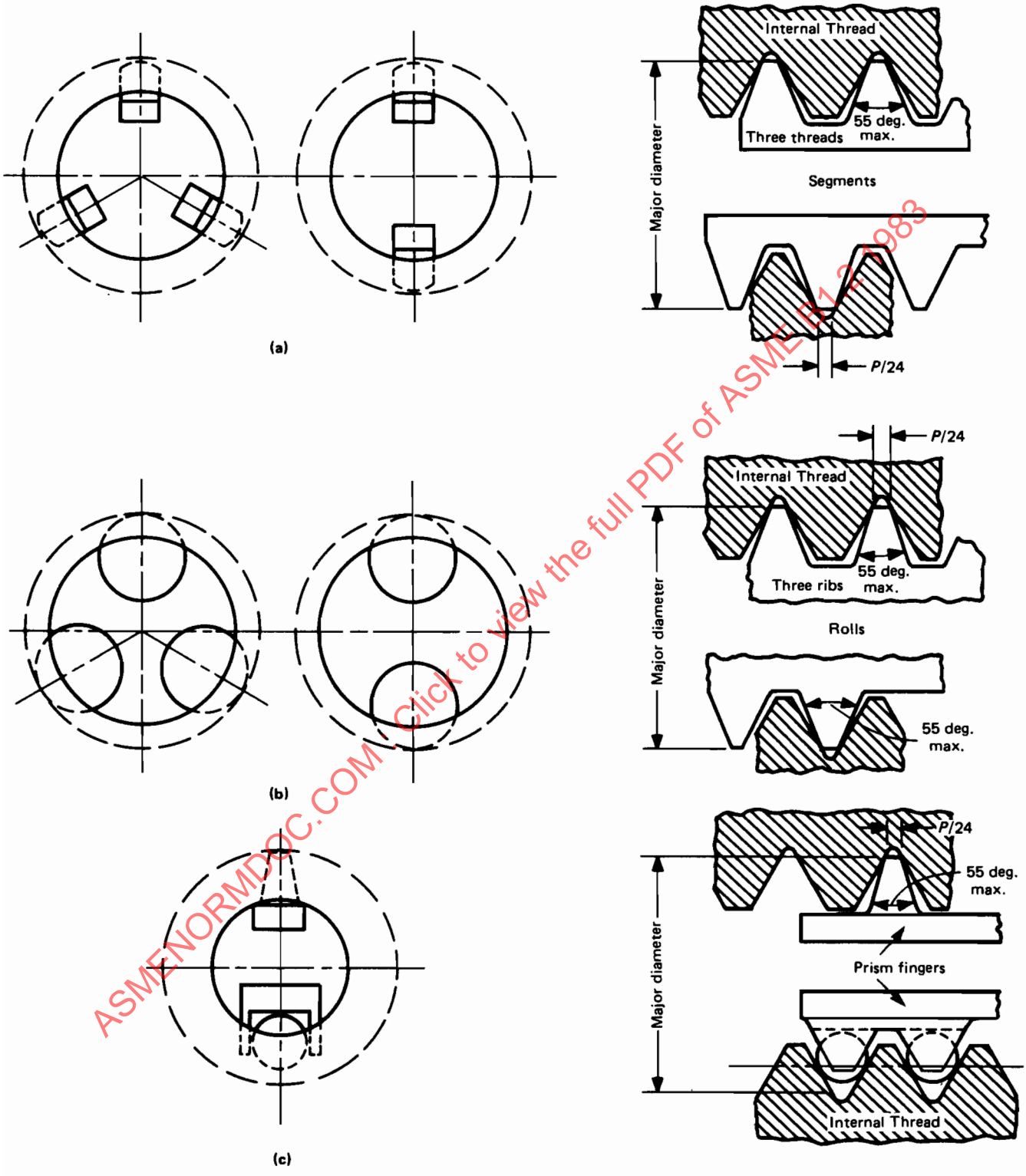





**FIG. 11 SNAP AND INDICATING DIAMETER GAGES — MAX.-MIN. MAJOR DIAMETER LIMIT AND SIZE**

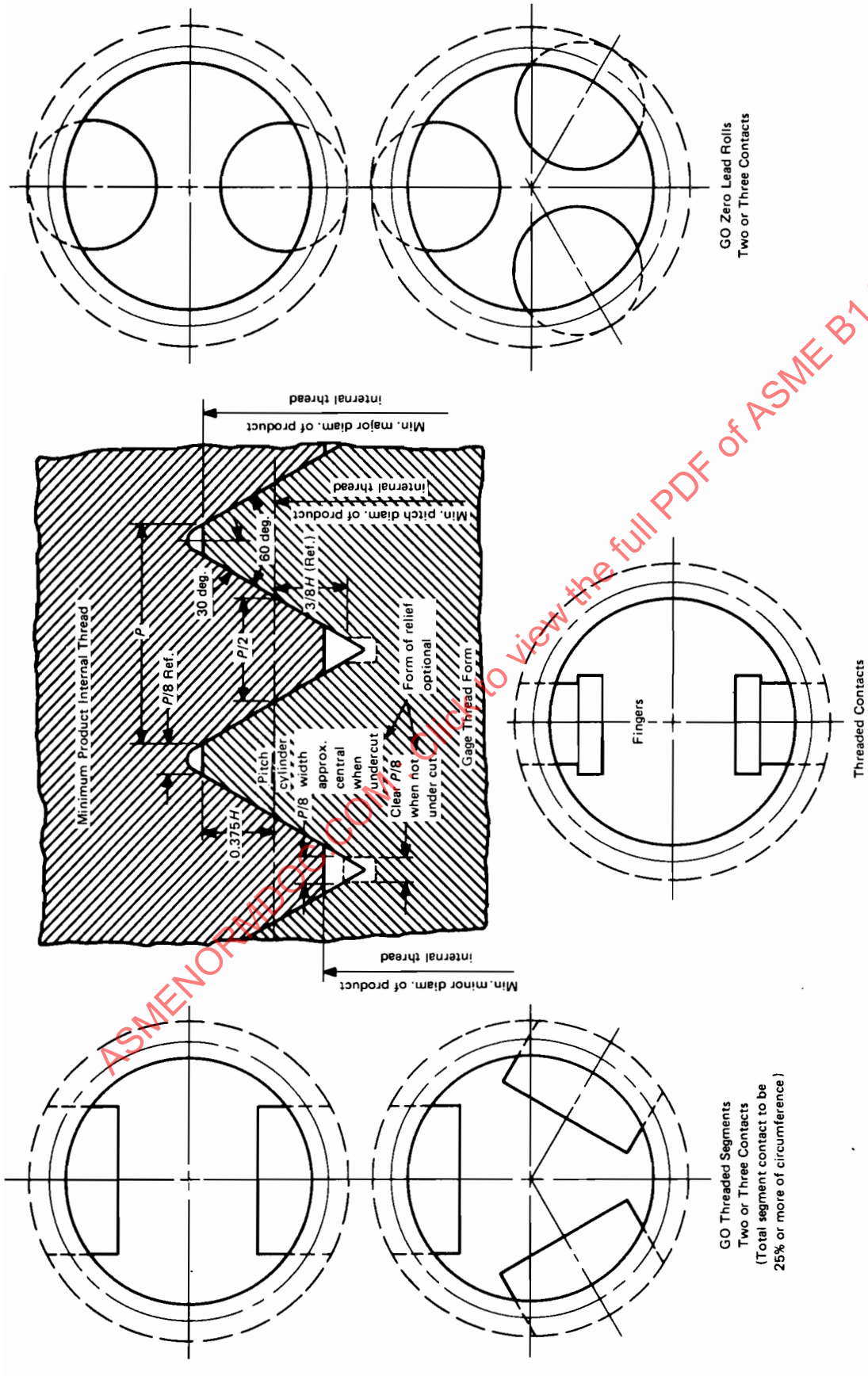



FIG. 12 INDICATING THREAD GAGES — MAXIMUM-MATERIAL GO FUNCTIONAL LIMIT AND SIZE

## TABLE 9 CONSTANTS FOR COMPUTING THREAD GAGE DIMENSIONS

| Threads/ in., $n$ | Pitch, $p$ | Truncation of GO Truncated Setting Plug, $0.060\sqrt[3]{p^2} + 0.017p$ | Half-Height of Cone Contact, $0.05p$ | Distance Between Pitch Cylinder and Half-Height of Cone Contact, $0.087p$ | Height of Gage Cone Contact, $0.11547H = 0.1p$ | Width of Flat on GO Plug, $p/8 = 0.125p$ | Addendum of Ring Thread and Truncation of Internal Thread, $H/4 = 0.25H = 0.216506p$ | Width of Flat on GO Ring, $p/4 = 0.25p$ | Dedendum of Ring Thread and Addendum of Plug Thread, $0.375H = 0.3247p$ | Twice External Thread Height, $.075H = 0.649519p$ $h$ | Half Height of Sharp V-Thread, $H/2 = 0.5H = 0.43301p$ | Height of Sharp V-Thread, $H = 0.866025p$ | Double Height of Internal Thread, $1.25H = 1.082532p$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 80 | 0.012500 | 0.0034 | 0.00063 | 0.00109 | 0.00125 | 0.00156 | 0.00271 | 0.00312 | 0.00406 | 0.008119 | 0.00541 | 0.010825 | 0.01353 |
| 72 | .013889 | .0037 | .00069 | .00122 | .00139 | .00174 | .00301 | .00347 | .00451 | .009021 | .00601 | .012028 | .01504 |
| 64 | .015625 | .0040 | .00078 | .00136 | .00156 | .00195 | .00338 | .00391 | .00507 | .010149 | .00677 | .013532 | .01691 |
| 56 | .017857 | .0044 | .00089 | .00155 | .00179 | .00223 | .00387 | .00446 | .00580 | .011599 | .00773 | .015465 | .01933 |
| 48 | .020833 | .0049 | .00104 | .00181 | .00208 | .00260 | .00451 | .00521 | .00677 | .013532 | .00902 | .018042 | .02255 |
| 44 | .022727 | .0052 | .00114 | .00198 | .00227 | .00284 | .00492 | .00568 | .00738 | .014762 | .00984 | .019682 | .02460 |
| 40 | .025000 | .0056 | .00125 | .00218 | .00250 | .00312 | .00541 | .00625 | .00812 | .016238 | .01083 | .021651 | .02706 |
| 36 | .027778 | .0060 | .00139 | .00242 | .00278 | .00347 | .00601 | .00694 | .00902 | .018042 | .01203 | .024056 | .03007 |
| 32 | .031250 | .0065 | .00156 | .00272 | .00313 | .00391 | .00677 | .00781 | .01015 | .020297 | .01353 | .027063 | .03383 |
| 28 | .035714 | .0071 | .00179 | .00311 | .00357 | .00446 | .00773 | .00893 | .01160 | .023197 | .01546 | .030929 | .03866 |
| 27 | .037037 | .0073 | .00185 | .00322 | .00370 | .00463 | .00802 | .00926 | .01203 | .024056 | .01604 | .032075 | .04009 |
| 24 | .041667 | .0079 | .00208 | .00361 | .00417 | .00521 | .00902 | .01042 | .01353 | .027063 | .01804 | .036084 | .04511 |
| 20 | .050000 | .0090 | .00250 | .00435 | .00500 | .00625 | .01083 | .01250 | .01624 | .032476 | .02165 | .043301 | .05413 |
| 18 | .055556 | .0097 | .00278 | .00483 | .00556 | .00694 | .01203 | .01389 | .01804 | .036084 | .02406 | .048113 | .06014 |
| 16 | .062500 | .0105 | .00313 | .00544 | .00625 | .00781 | .01353 | .01562 | .02030 | .040595 | .02706 | .054127 | .06766 |
| 14 | .071429 | .0115 | .00357 | .00621 | .00714 | .00893 | .01546 | .01786 | .02320 | .046394 | .03093 | .061859 | .07732 |
| 13 | .076923 | .0122 | .00385 | .00669 | .00769 | .00962 | .01665 | .01923 | .02498 | .049963 | .03331 | .066617 | .08327 |
| 12 | .083333 | .0129 | .00417 | .00725 | .00833 | .01042 | .01804 | .02083 | .02706 | .054127 | .03608 | .072169 | .09021 |
| 11½ | .086957 | .0133 | .00435 | .00757 | .00870 | .01087 | .01883 | .02174 | .02824 | .056480 | .03765 | .075307 | .09413 |
| 11 | .090909 | .0137 | .00451 | .00791 | .00909 | .01136 | .01968 | .02273 | .02952 | .059047 | .03936 | .078730 | .09841 |
| 10 | .100000 | .0146 | .00500 | .00870 | .01000 | .01250 | .02165 | .02500 | .03248 | .064952 | .04330 | .086603 | .10825 |
| 9 | .111111 | .0158 | .00556 | .00967 | .01111 | .01389 | .02406 | .02778 | .03608 | .072169 | .04811 | .096225 | .12028 |
| 8 | .125000 | .0171 | .00625 | .01088 | .01250 | .01562 | .02706 | .03125 | .04059 | .081190 | .05413 | .108253 | .13532 |
| 7 | .142857 | .0188 | .00714 | .01243 | .01429 | .01786 | .03093 | .03571 | .04639 | .092788 | .06186 | .123718 | .15465 |
| 6 | .166667 | .0210 | .00833 | .01450 | .01667 | .02083 | .03608 | .04167 | .05413 | .108253 | .07217 | .144338 | .18042 |
| 5 | .200000 | .0239 | .01000 | .01740 | .02000 | .02500 | .04330 | .05000 | .06495 | .129904 | .08660 | .173205 | .21651 |
| 4½ | .222222 | .0258 | .01111 | .01933 | .02222 | .02778 | .04811 | .05556 | .07217 | .144338 | .09623 | .192450 | .24056 |
| 4 | .250000 | .0281 | .01250 | .02175 | .02500 | .03125 | .05413 | .06250 | .08119 | .162380 | .10825 | .216506 | .27063 |

**4.10.4 Thread Crests.** The major diameter of the GO segments, rolls, or fingers are equivalent to a $P/8$ flat with a plus gage tolerance. The thread crests shall be flat in an axial plane and parallel to the axis of the segment, roll, or finger.

**4.10.5 Pitch Cylinder.** The pitch cylinder of the segments, rolls, or fingers shall be round and straight within the gage pitch diameter limits specified in Table 6.

**4.10.6 Lead and Half-Angle Variations.** Lead and half-angle variations on thread of segments, rolls, and fingers shall be within the limits specified. See Table 6.

**4.10.7 Thread Roots**

**4.10.7.1** The minor diameter of the GO threaded segments, rolls, or fingers shall be cleared beyond a $P/8$ width of flat either by extension of the sides of the thread toward a sharp vee or by an undercut no greater than $P/8$ maximum width and approximately central.

**4.10.8 Runout.** The pitch and major cylinders of the threaded portion of the GO segments or rolls shall not exceed the runout as determined by measurements of runout (full-indicator movement) on each gaging member, with respect to pitch cylinder. Runout shall not exceed one-half X gage major diameter tolerance.

**4.10.9 Identification.** The gaging elements, segments, rolls, or fingers shall be identified by the nominal size and threads/in. When indicating gage is assembled with proper contacts, the gage should be tagged with the nominal size, threads/in., thread series, class, PD, and pitch diameter limits.

EXAMPLE:
1/4-20 (or .250-20) UNC-2B PD.2175-.2224

## 4.11 Minimum-Material Indicating Thread Gages for Internal Thread (Table 2 — Gages 4.5 and 4.6)

**4.11.1 Purpose and Use.** The indicating thread gage inspects the minimum-material limit and size ($C_1$ and $C_2$, $D_1$ and $D_2$) of product internal threads. By the use of interchangeable segments, rolls, or balls, the gage is also used to check roundness and taper of pitch cylinder. Some types of indicating gages are set by using a thread-setting ring gage. See 4.7. Readings indicate the position of product thread within the tolerance range. Other types may be set with gage blocks and jaws, plain ring gages, or measuring machine.

**4.11.2 Basic Design.** Indicating gages have three contacts at 120 deg. or two contacts at 180 deg. Gages are made with segments, rolls, or ball design with cone and vee configuration (pitch diameter type) or ball only (thread groove diameter type). It is impractical to attempt checking internal product threads smaller than 3/16 in. with indicating gages.

**4.11.3 Thread Form.** The specifications for cone and vee segments are shown in Fig. 13; the ball design and thread groove diameter type are shown in Fig. 14.

**4.11.4** The major diameter of the cone and vee segments or rolls are made to manufacturer's standard. See Figs. 13 and 14.

**4.11.5 Identification.** The gaging elements, segments, rolls, or ball fingers should be marked with nominal size and threads/in. When gage is assembled with proper gaging contacts, the indicating gage should be tagged with the nominal size, threads/in., thread series, class, PD, and pitch diameter.

EXAMPLE:
1/4-20 (or .250-20) UNC-2B PD.2224

## 4.12 Indicating Runout Thread Gage for Internal Thread (Table 2 — Gage 4.7)

**4.12.1 Purpose and Use.** This indicating gage inspects the runout of the minor diameter to the pitch diameter of the product internal thread. Readings indicate the position of product minor diameter to the pitch diameter, $M_1$, within the tolerance specified.

**4.12.2 Basic Design.** Indicating gages have three contacts, one plain and two threaded, at 120 deg.; or two contacts, one plain and one threaded, at 180 deg. See Fig. 15, sketch (a). The range of segments is 3/16 in. and larger; the range of rolls is 1-3/4 in. and larger.

The ball-type indicating gage has two balls on one contact engaging two threads, and one contact has a plain prism shaped finger 180 deg. apart from the ball contact. See Fig. 15, sketch (b): the range is 5/8 in. and larger.

The indicating gage is set by a GO setting ring gage (see Fig. 8) with plain gaging contact on minor diameter of thread ring gage and the thread contact on pitch diameter of ring thread gage.

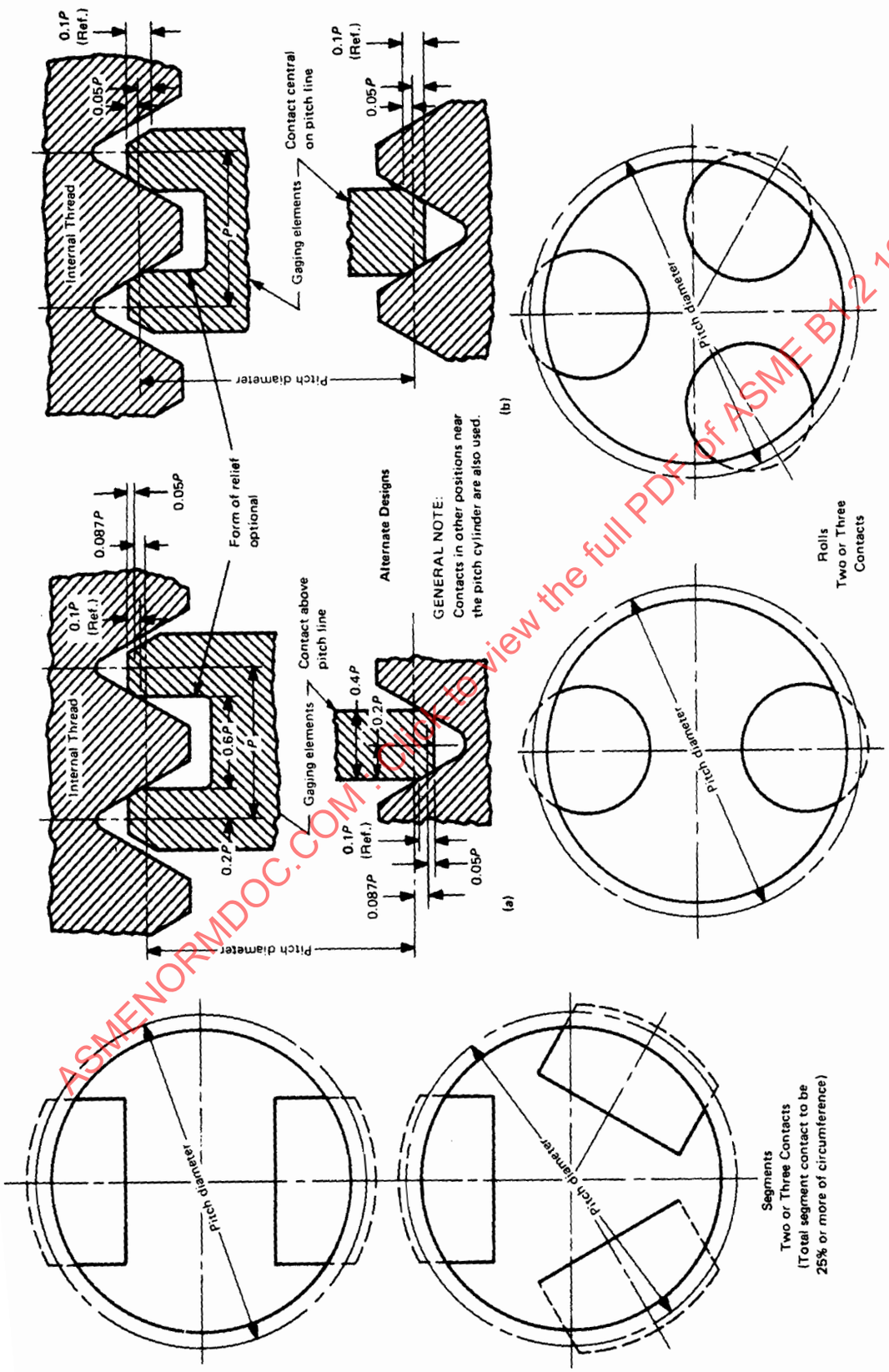



FIG. 13 INDICATING THREAD GAGES — MINIMUM-MATERIAL PITCH DIAMETER LIMIT AND SIZE — CONE AND VEE

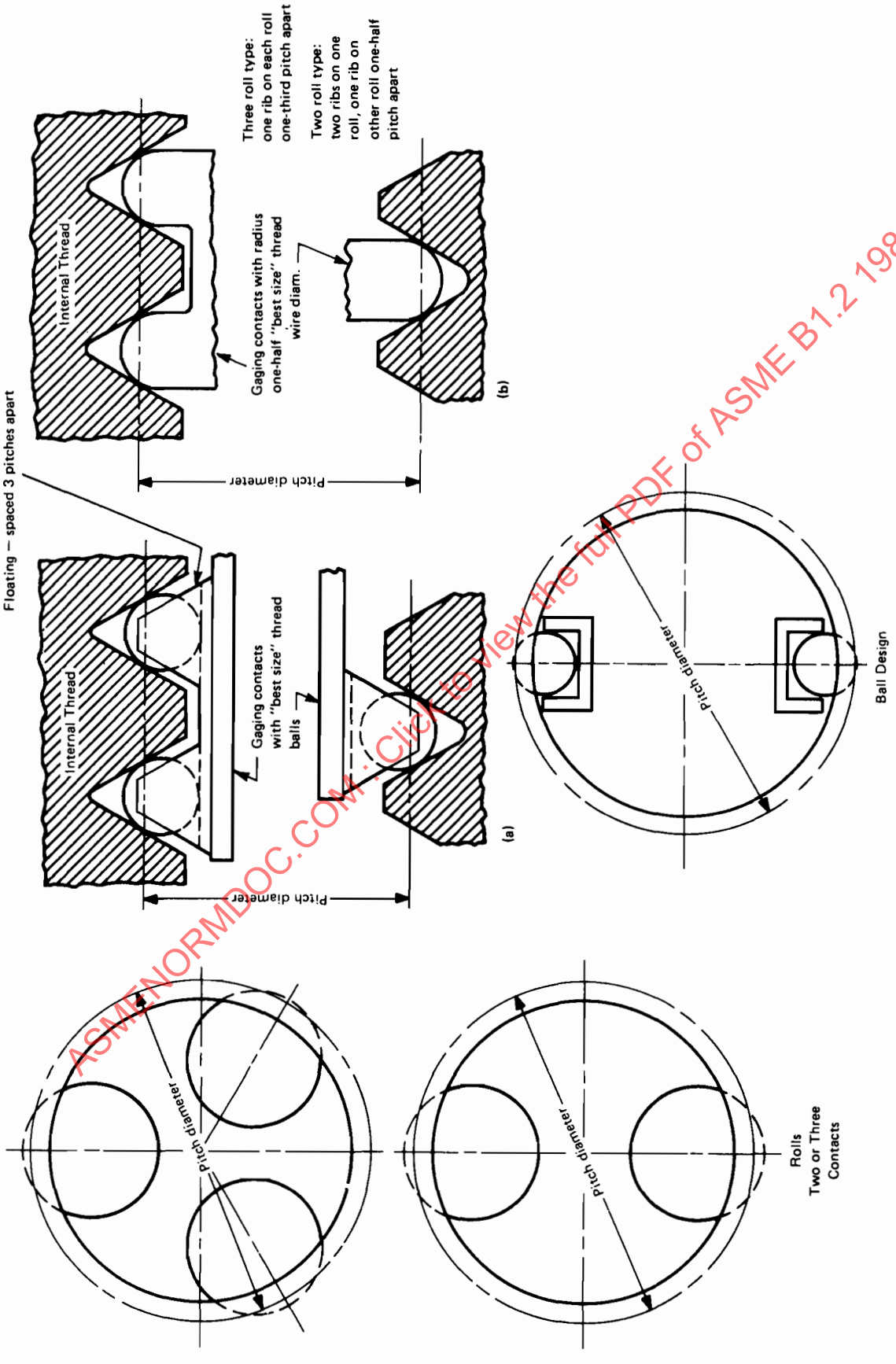



FIG. 14 INDICATING THREAD GAGES — MINIMUM-MATERIAL PITCH DIAMETER LIMIT AND SIZE — BALL AND RADIUS

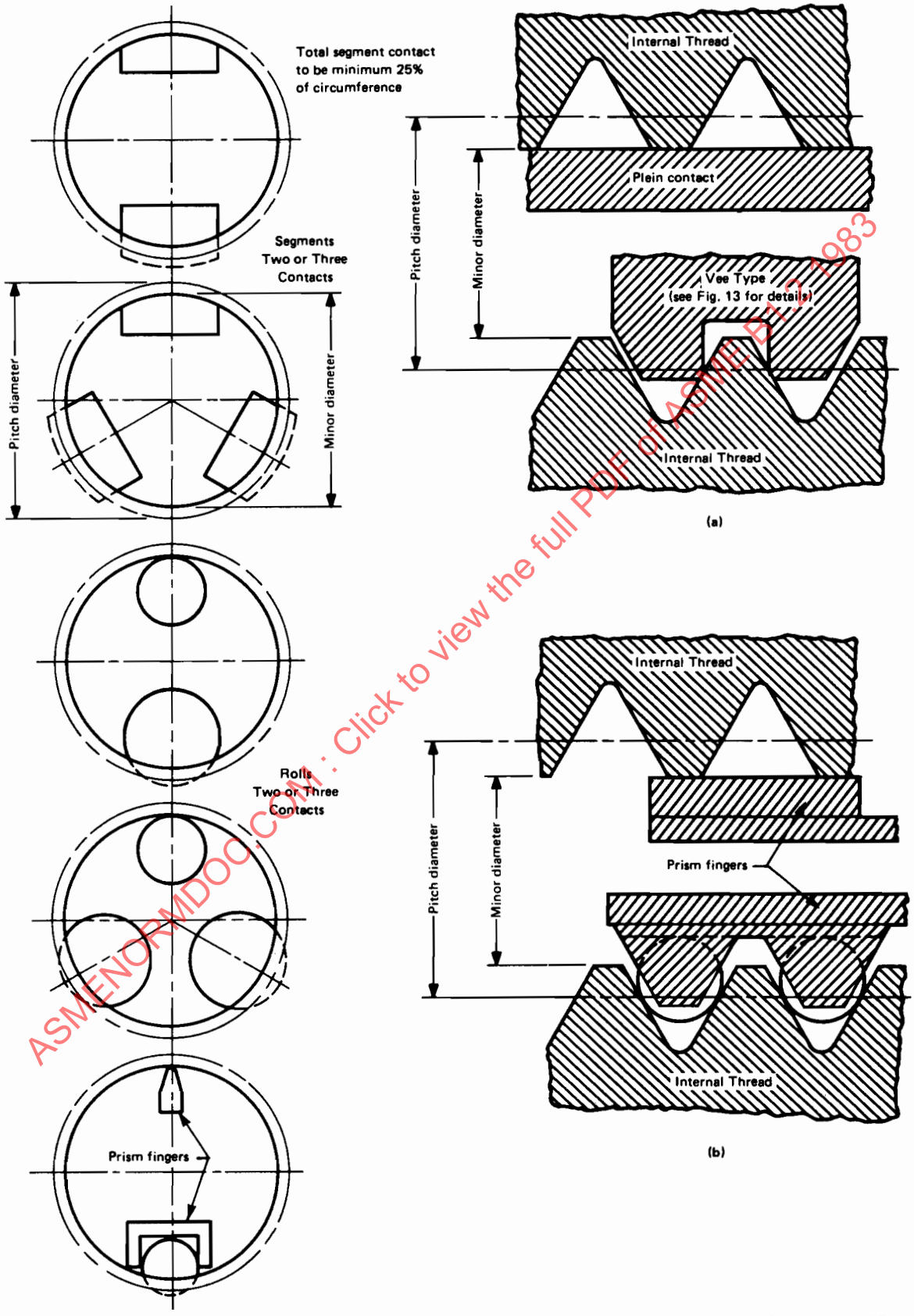



FIG. 15 INDICATING THREAD GAGES — DIAMETER RUNOUT — MINOR TO PITCH

**4.12.3 Thread Form.** The specifications for thread form on vee segments or rolls are summarized in Fig. 15. Plain contacts have line bearing on minor diameter of product. Balls are "best size" thread ball contacting thread at pitch line.

**4.12.4 Thread Crests.** The thread crests shall be flat in an axial plane and parallel to axis of segment or roll.

**4.12.5 Lead and Half-Angle Variations.** Lead and half-angle variations on threaded segments or rolls shall be within the limits specified. See Table 6.

**4.12.6 Identification.** The gaging elements, segments, rolls, or ball finger should be marked with the nominal size and threads/in. When gage is assembled with proper gaging contacts, the indicating gage should be tagged with the nominal size, threads/in., thread series, class, and RUNOUT.

EXAMPLE:
1/4-20 (or .250-20) UNC-2B RUNOUT

## 4.13 Differential Gaging (Table 2 — Gage 4.8)

**4.13.1** The concept of differential gaging for product internal screw threads makes use of fundamental geometric theorems that relate directly to size, position, and form.

For differential gaging, two methods are used for measuring screw thread size:

(*a*) GO functional size

(*b*) pitch diameter (or thread groove diameter)

Only when a screw thread has perfect position and form [i.e., zero variation in lead (including helical path), flank angle, taper, and roundness] are these two measurements equal. Differential gaging is a variables method of in-process inspection, final conformance inspection, or both, that provides the actual numerical values for both GO functional and pitch diameter sizes. These are the two extreme sizes of any product screw thread. One of the sizes, pitch diameter, is the size of the thread pitch diameter with essentially zero variation in all other thread elements, while the other size, GO functional size, is the size of the thread with the effects of all variations in all other thread elements added to the pitch diameter. The numerical difference between these two sizes is called a *cumulative thread element variation differential* and represents the diametral effect of the total amount of thread element variations.

The inspection process that further refines the total amount of thread element variation so that the amount of variation for each individual element becomes known is called *single thread element variation differential.*

**4.13.2 Cumulative Thread Element Variation Differential.** Indicating gages have either three contacts at 120 deg. spacing or two contacts at 180 deg. spacing. The indicating gages with segments or rolls as shown in Figs. 12 and 16, sketch (a) give the functional size indicating reading, Z. The indicating gages with cone and vee segments or rolls with one thread pitch engagement at pitch diameter line, Fig. 13, and thread groove diameter type, Fig. 14, sketch (a) or (b), or both, shown in Fig. 16, sketches (c) and (d), give the pitch diameter size indicating reading, X. The difference in the indicator readings, X − Z, between the two types of gages gives the cumulative form differential reading which corresponds to the pitch diameter equivalent, $\Delta D_2 C_2$, for the combination of lead, helix, flank angle, roundness, and taper variations on the product thread. See Fig. 16.

### 4.13.3 Single Thread Element Variation Differential

**4.13.3.1 Lead (Helix) Differential Reading.** The indicating gage reading, Y, using the full-form thread segments or rolls with one thread pitch engagement, similar to Figs. 12 and 16, sketch (b), is compared to the reading, Z, using the functional size gage shown in Figs. 12 and 16, sketch (a). The difference between the measured values, Y − Z, is the lead differential reading which corresponds to the pitch diameter equivalent, $\Delta D_2 \lambda$, for the lead and helix variation of the product thread.

**4.13.3.2 Flank Angle Differential Reading.** The indicating gage reading, X, using segments or rolls with cone and vee design, Figs. 13 and 16, sketch (c), is compared to reading, Y, using the full-form thread segments or rolls, similar to Figs. 12 and 16, sketch (b). Both designs have one thread pitch engagement. The difference between the measured values, X − Y, is the flank angle differential reading which corresponds approximately to the pitch diameter equivalent, $\Delta D_2 \propto$, for the combined flank angle variation on the product thread.

**4.13.3.3 Roundness and Taper Differential Readings.** By the use of full-form thread segments or rolls with one thread pitch engagement, similar to Figs. 12 and 16, sketch (b); cone and vee segments or rolls, Figs. 13 and 16, sketch (c); or thread groove diameter type, Figs. 14, sketch (a) or (b), and 16, sketch (d), the roundness and taper of pitch cylinder is

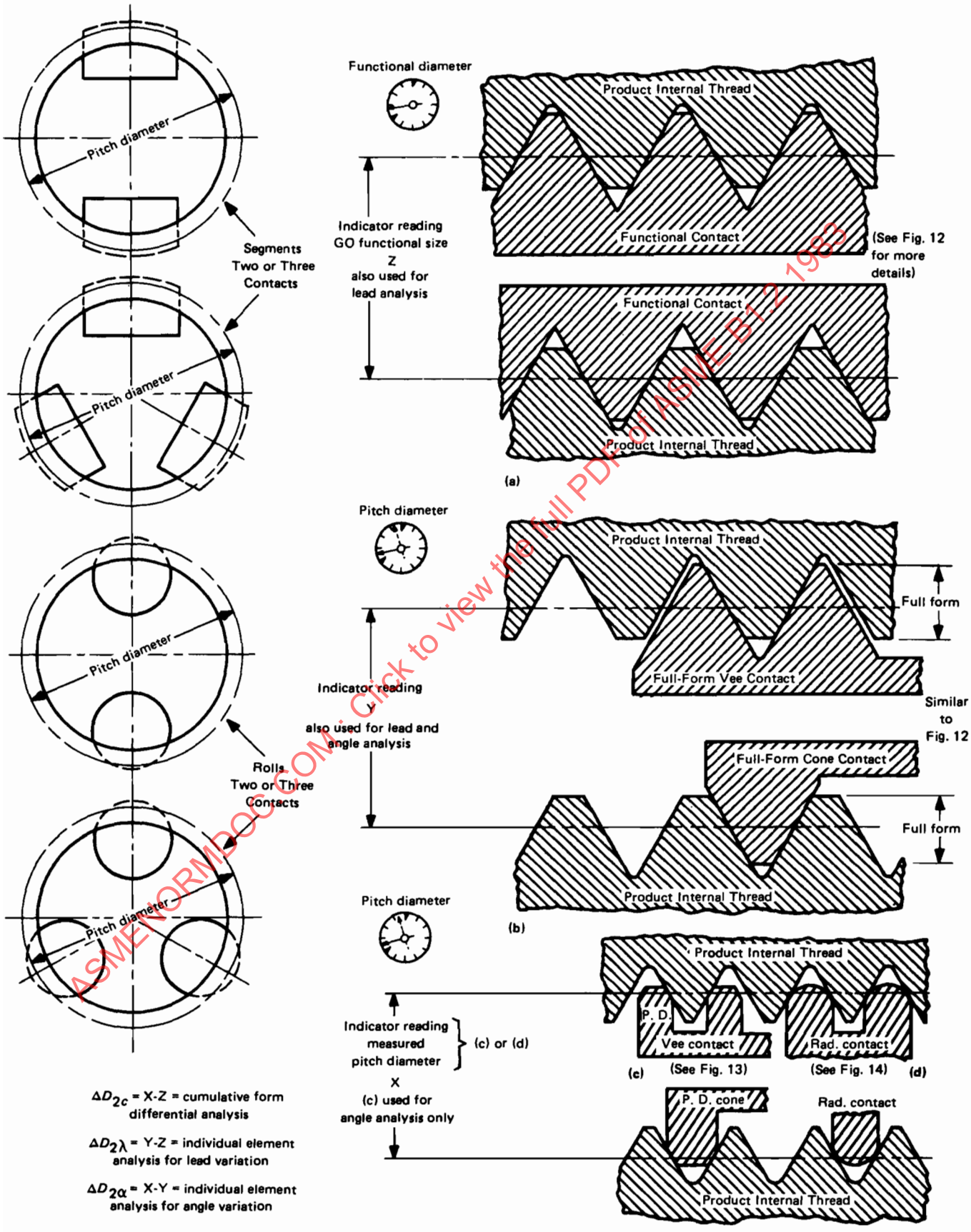





**FIG. 16 INDICATING THREAD GAGES — DIFFERENTIAL GAGING**

checked. Rotate the product between contacts at different axial locations on thread for maximum difference in roundness and taper readings. Two contacts spaced 180 deg. apart give even lobing out-of-round measurement. Three contacts spaced 120 deg. apart give odd lobing out-of-round measurements.

**4.13.4 Thread Form.** The functional segments or rolls, Fig. 16, sketch (a), are described in 4.10. The full-form one thread vee segment or roll, Figs. 12 and 16, sketch (b) upper contact, has a depth of thread equivalent to the functional type, but relieved on the outside thread flanks. The full-form cone segment or roll, Figs. 12 and 16, sketch (b) lower contact, has a $P/8$ flat on outside diameter. The cone and vee segments or rolls, Fig. 16, sketch (c), are described and shown in Fig. 13. Thread groove diameter type, Fig. 16, sketch (d), is described and shown in Fig. 14.

**4.13.5 Identification.** The gaging elements, segments, or rolls should be identified by nominal size and threads/in. Indicating gages, assembled with proper contacts, should be tagged with nominal size, threads/in., thread series, class, and the type of differential reading specified above.

EXAMPLE:
1/4-20 (or .250-20) UNC-2B
Flank angle differential variation

## 4.14 Pitch Micrometers (Table 2 — Gages 6 and 7)

**4.14.1 Purpose and Use.** Inside micrometers, caliper type, are direct reading measuring instruments. Cone and vee contact points are modified for a NOT GO (HI) profile or pitch diameter contact only. See Fig. 17.

## 4.15 Thread-Measuring Balls (Table 2 — Gage 8)

**4.15.1 Purpose and Use.** One indicating gage using thread-measuring balls as gaging elements inspects the pitch diameter of the internal thread. It is shown in Fig. 14, sketch (a). Special fixturing and ball probes may be required when using a three-axis coordinate measuring machine for internal measurement of pitch diameter. See Appendix B9 and B10 for more information on thread-measuring balls.

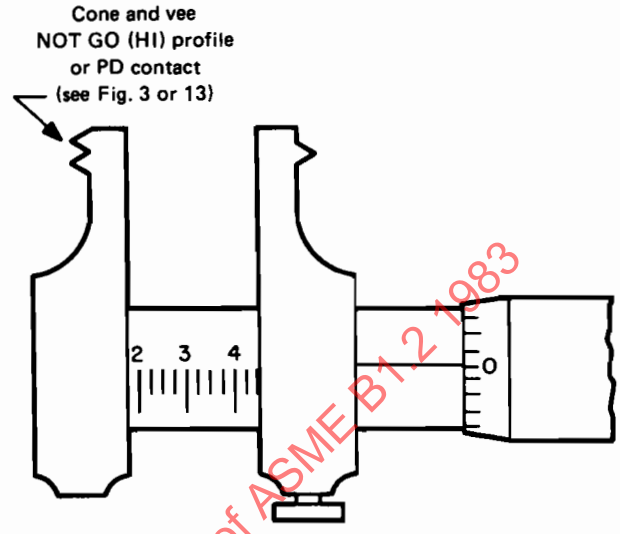



**FIG. 17 INSIDE MICROMETER, CALIPER TYPE**

## 4.16 Optical Comparator and Toolmaker's Microscope (Table 2 — Gage 9)

**4.16.1 Purpose and Use.** The optical comparator magnifies and projects the thread profile on a screen. Internal threads are checked using cast replicas. For best profile image, the threaded item is positioned so that the light is aligned with the thread lead angle. Since the thread profile is defined in a plane containing the axis, a correction factor must be added to the measured flank angle observed normal to the lead angle. For most standard single lead threads, the correction factor is less than 0 deg., 5 min.

Optical comparators are generally fitted with lenses providing various magnifications between 10X and 100X. Profile dimensions are checked using appropriate linear and angular scales on the machine and by application of thread profile, radius, and other overlay charts. Flank angles, thread crest and root flats, root radius, other groove and ridge dimensions, and axial plane pitch and lead may be checked. Major, minor, and pitch diameters are identified, then measured using table traverse readouts.

**4.16.2** The toolmaker's microscope is similar in function to the optical comparator but does not include screen projection or overlay charts. Magnifi-

cations are generally lower than those of optical comparators. Profile reticules are used in place of charts.

### 4.17 Profile Tracing Instrument (Table 2 — Gage 10)

**4.17.1 Purpose and Use.** The instrument inspects thread contour to an accuracy of 0.0002 in. for 1 in. of horizontal and 0.100 in. of vertical travel at 100X magnification.

The tracing on the chart paper may be analyzed for elements of the thread profile, including depth, crest width, lead, angle, and radius at root of thread.

The instrument is generally able to check internal threads of 0.1875 in. and larger at magnifications from 5X to 100X.

### 4.18 Surface Roughness Equipment (Table 2 — Gage 14)

**4.18.1 Purpose and Use.** Measurement of surface roughness on screw thread flanks is usually made with an instrument which traverses a radiused stylus across the lay. The stylus displacement due to the surface irregularities is electronically amplified and the meter reading displays the arithmetical average roughness height in microinches (see ANSI B46.1, Surface Texture: Surface Roughness, Waviness, and Lay). Some instruments produce a chart of the traced path which shows the peak-to-valley heights of the surface irregularities. Special fixturing is required to position and guide stylus over thread surface.

### 4.19 Roundness Equipment (Table 2 — Gage 15)

**4.19.1 Purpose and Use.** There are two types of precision roundness measuring instruments: precision rotary tables and precision spindles. A special stylus coupled to an electric unit records the out-of-roundness on a circular chart as it traces around the internal cylindrical surface of the workpiece. The instrument provides a series of magnifications for stylus displacement, a filtering system for isolating lobing from surface irregularities, various means for centering the amplified stylus trace on the polar chart, and a selection of rotating speeds. For details on measuring and for other methods for checking roundness, see ANSI B89.3.1, Measurement of Out-of-Roundness.

### 4.20 Miscellaneous Gages and Gaging Equipment

**4.20.1** The description of internal gages in 4.1 through 4.19 is definitely not a complete catalog of the various types available for inspection purposes. The gages not described above may be used provided they adhere to the standard thread practice noted in this Standard (i.e., truncation, form of thread, tolerance, etc.) and have producer and consumer agreement.

## 5 TYPES OF GAGES FOR PRODUCT EXTERNAL THREAD

### 5.1 GO Working Thread Ring Gages (Table 1 — Gage 1.1)

**5.1.1 Purpose and Use.** The GO thread ring gage inspects the maximum-material GO functional limit, $A_1$, of product external thread. The GO thread ring gage when properly set to its respective calibrated thread-setting plug represents the maximum-material GO functional limit of the product external thread, and its purpose is to assure interchangeable assembly of maximum-material mating parts.

Adjustable GO thread ring gages must be set to the applicable W (see Table 5, Note 2) tolerance-setting plugs. The product thread must freely enter the GO thread ring gage for the entire length of the threaded portion. The GO thread ring gage is a cumulative check of all thread elements except the major diameter.

**5.1.2 Basic Design.** The maximum-material limit or GO thread ring gage is made to the prescribed maximum-material limit of the product thread, and the gaging length is equal to the thickness of the thread ring gage.

**5.1.3 Gage Blanks.** For practical and economic reasons, the designs and thicknesses of thread ring gages have been standardized for various size ranges and pitches (see ANSI B47.1 or Table A4).

**5.1.4 Thread Form.** The specifications for thread form are summarized in Table 4 and Fig. 18.

**5.1.5 Thread Crests.** The minor diameter of the GO thread ring gage shall be equal to the maximum pitch diameter of the product external thread minus $H/2$ with a minus gage tolerance. This corresponds to a width of flat of $P/4$. The thread crests shall be flat in an axial section and parallel to the axis.





*(Section 5 continues on p. 127.)*

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 0-80 or 0.060-80 | UNF | 2A | 0.0514 | 0.0460 | 0.0496 | 0.0469 | 0.0595 | 0.0563 | 0.0600 | 0.0519 | 0.0596 | 0.0542 | 0.0465 | 0.0514 | 2B |
| | | | .0512 | .0457 | .0498 | .0472 | .0594 | .0564 | .0603 | .0521 | .0593 | .0540 | .0466 | .0513 | |
| | | 3A | .0519 | .0465 | .0506 | .0479 | .0600 | .0568 | .0600 | .0519 | .0590 | .0536 | .0465 | .0514 | 3B |
| | | | .0517 | .0462 | .0508 | .0482 | .0599 | .0569 | .0603 | .0521 | .0587 | .0534 | .0466 | .0513 | |
| 1-64 or 0.073-64 | UNC | 2A | .0623 | .0555 | .0603 | .0569 | .0724 | .0686 | .0730 | .0629 | .0723 | .0655 | .0561 | .0623 | 2B |
| | | | .0621 | .0551 | .0605 | .0573 | .0723 | .0687 | .0734 | .0631 | .0719 | .0653 | .0562 | .0622 | |
| | | 3A | .0629 | .0561 | .0614 | .0580 | .0730 | .0692 | .0730 | .0629 | .0716 | .0648 | .0561 | .0623 | 3B |
| | | | .0627 | .0557 | .0616 | .0584 | .0729 | .0693 | .0734 | .0631 | .0712 | .0646 | .0562 | .0622 | |
| 1-72 or 0.073-72 | UNF | 2A | .0634 | .0574 | .0615 | .0585 | .0724 | .0689 | .0730 | .0640 | .0725 | .0665 | .0580 | .0635 | 2B |
| | | | .0632 | .0571 | .0617 | .0588 | .0723 | .0690 | .0733 | .0642 | .0722 | .0663 | .0581 | .0634 | |
| | | 3A | .0640 | .0580 | .0626 | .0596 | .0730 | .0695 | .0730 | .0640 | .0719 | .0659 | .0580 | .0635 | 3B |
| | | | .0638 | .0577 | .0628 | .0599 | .0729 | .0696 | .0733 | .0642 | .0716 | .0657 | .0581 | .0634 | |
| 2-56 or 0.086-56 | UNC | 2A | .0738 | .0661 | .0717 | .0678 | .0854 | .0813 | .0860 | .0744 | .0849 | .0772 | .0667 | .0737 | 2B |
| | | | .0736 | .0657 | .0719 | .0682 | .0853 | .0814 | .0864 | .0746 | .0845 | .0770 | .0668 | .0736 | |
| | | 3A | .0744 | .0667 | .0728 | .0689 | .0860 | .0819 | .0860 | .0744 | .0842 | .0765 | .0667 | .0737 | 3B |
| | | | .0742 | .0663 | .0730 | .0693 | .0859 | .0820 | .0864 | .0746 | .0838 | .0763 | .0668 | .0736 | |
| 2-64 or 0.086-64 | UNF | 2A | .0753 | .0685 | .0733 | .0699 | .0854 | .0816 | .0860 | .0759 | .0854 | .0786 | .0691 | .0753 | 2B |
| | | | .0751 | .0681 | .0735 | .0703 | .0853 | .0817 | .0864 | .0761 | .0850 | .0784 | .0692 | .0752 | |
| | | 3A | .0759 | .0691 | .0744 | .0710 | .0860 | .0822 | .0860 | .0759 | .0847 | .0779 | .0691 | .0753 | 3B |
| | | | .0757 | .0687 | .0746 | .0714 | .0859 | .0823 | .0864 | .0761 | .0843 | .0777 | .0692 | .0752 | |
| 3-48 or 0.099-48 | UNC | 2A | .0848 | .0758 | .0825 | .0780 | .0983 | .0938 | .0990 | .0855 | .0975 | .0885 | .0764 | .0845 | 2B |
| | | | .0846 | .0754 | .0827 | .0784 | .0982 | .0939 | .0994 | .0857 | .0971 | .0883 | .0765 | .0844 | |
| | | 3A | .0855 | .0765 | .0838 | .0793 | .0990 | .0945 | .0990 | .0855 | .0967 | .0877 | .0764 | .0845 | 3B |
| | | | .0853 | .0761 | .0840 | .0797 | .0989 | .0946 | .0994 | .0857 | .0963 | .0875 | .0765 | .0844 | |
| 3-56 or 0.099-56 | UNF | 2A | .0867 | .0790 | .0845 | .0806 | .0983 | .0942 | .0990 | .0874 | .0979 | .0902 | .0797 | .0865 | 2B |
| | | | .0865 | .0786 | .0847 | .0810 | .0982 | .0943 | .0994 | .0876 | .0975 | .0900 | .0798 | .0864 | |
| | | 3A | .0874 | .0797 | .0858 | .0819 | .0990 | .0949 | .0990 | .0874 | .0972 | .0895 | .0797 | .0865 | 3B |
| | | | .0872 | .0793 | .0860 | .0823 | .0989 | .0950 | .0994 | .0876 | .0968 | .0893 | .0798 | .0864 | |
| 4-40 or 0.112-40 | UNC | 2A | .0950 | .0842 | .0925 | .0871 | .1112 | .1061 | .1120 | .0958 | .1099 | .0991 | .0849 | .0939 | 2B |
| | | | .0948 | .0838 | .0927 | .0875 | .1111 | .1062 | .1124 | .0960 | .1095 | .0989 | .0850 | .0938 | |
| | | 3A | .0958 | .0850 | .0939 | .0885 | .1120 | .1069 | .1120 | .0958 | .1090 | .0982 | .0849 | .0939 | 3B |
| | | | .0956 | .0846 | .0941 | .0889 | .1119 | .1070 | .1124 | .0960 | .1086 | .0980 | .0850 | .0938 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 4-48 or 0.112-48 | UNF | 2A | 0.0978 | 0.0888 | 0.0954 | 0.0909 | 0.1113 | 0.1068 | 0.1120 | 0.0985 | 0.1106 | 0.1016 | 0.0894 | 0.0968 | 2B |
| | | | .0976 | .0884 | .0956 | .0913 | .1112 | .1069 | .1124 | .0987 | .1102 | .1014 | .0895 | .0967 | |
| | | 3A | .0985 | .0895 | .0967 | .0922 | .1120 | .1075 | .1120 | .0985 | .1098 | .1008 | .0894 | .0968 | 3B |
| | | | .0983 | .0891 | .0969 | .0926 | .1119 | .1076 | .1124 | .0987 | .1094 | .1006 | .0895 | .0967 | |
| 5-40 or 0.125-40 | UNC | 2A | .1080 | .0972 | .1054 | .1000 | .1242 | .1191 | .1250 | .1088 | .1229 | .1121 | .0979 | .1062 | 2B |
| | | | .1078 | .0968 | .1056 | .1004 | .1241 | .1192 | .1254 | .1090 | .1225 | .1119 | .0980 | .1061 | |
| | | 3A | .1088 | .0980 | .1069 | .1015 | .1250 | .1199 | .1250 | .1088 | .1221 | .1113 | .0979 | .1062 | 3B |
| | | | .1086 | .0976 | .1071 | .1019 | .1249 | .1200 | .1254 | .1090 | .1217 | .1111 | .0980 | .1061 | |
| 5-44 or 0.125-44 | UNF | 2A | .1095 | .0997 | .1070 | .1021 | .1243 | .1195 | .1250 | .1102 | .1232 | .1134 | .1004 | .1079 | 2B |
| | | | .1093 | .0993 | .1072 | .1025 | .1242 | .1196 | .1254 | .1104 | .1228 | .1132 | .1005 | .1078 | |
| | | 3A | .1102 | .1004 | .1083 | .1034 | .1250 | .1202 | .1250 | .1102 | .1224 | .1126 | .1004 | .1079 | 3B |
| | | | .1100 | .1000 | .1085 | .1038 | .1249 | .1203 | .1254 | .1104 | .1220 | .1124 | .1005 | .1078 | |
| 6-32 or 0.138-32 | UNC | 2A | .1169 | .1034 | .1141 | .1073 | .1372 | .1312 | .1380 | .1177 | .1349 | .1214 | .1040 | .1140 | 2B |
| | | | .1166 | .1029 | .1144 | .1078 | .1371 | .1313 | .1385 | .1180 | .1344 | .1211 | .1041 | .1139 | |
| | | 3A | .1177 | .1042 | .1156 | .1088 | .1380 | .1320 | .1380 | .1177 | .1339 | .1204 | .1040 | .1140 | 3B |
| | | | .1174 | .1037 | .1159 | .1093 | .1379 | .1321 | .1385 | .1180 | .1334 | .1201 | .1041 | .1139 | |
| 6-40 or 0.138-40 | UNF | 2A | .1210 | .1102 | .1184 | .1130 | .1372 | .1321 | .1380 | .1218 | .1360 | .1252 | .1110 | .1190 | 2B |
| | | | .1208 | .1098 | .1186 | .1134 | .1371 | .1322 | .1384 | .1220 | .1356 | .1250 | .1111 | .1189 | |
| | | 3A | .1218 | .1110 | .1198 | .1144 | .1380 | .1329 | .1380 | .1218 | .1351 | .1243 | .1110 | .1186 | 3B |
| | | | .1216 | .1106 | .1200 | .1148 | .1379 | .1330 | .1384 | .1220 | .1347 | .1241 | .1111 | .1185 | |
| 8-32 or 0.164-32 | UNC | 2A | .1428 | .1293 | 1399 | .1331 | .1631 | .1571 | .1640 | .1437 | .1610 | .1475 | .1300 | .1390 | 2B |
| | | | .1425 | .1288 | .1402 | .1336 | .1630 | .1572 | .1645 | .1440 | .1605 | .1472 | .1301 | .1389 | |
| | | 3A | .1437 | .1302 | .1415 | .1347 | .1640 | .1580 | .1640 | .1437 | .1600 | .1465 | .1300 | .1389 | 3B |
| | | | .1434 | .1297 | .1418 | .1352 | .1639 | .1581 | .1645 | .1440 | .1595 | .1462 | .1301 | .1388 | |
| 8-36 or 0.164-36 | UNF | 2A | .1452 | .1332 | .1424 | .1364 | .1632 | .1577 | .1640 | .1460 | .1616 | .1496 | .1340 | .1420 | 2B |
| | | | .1450 | .1328 | .1426 | .1368 | .1631 | .1578 | .1644 | .1462 | .1612 | .1494 | .1341 | .1419 | |
| | | 3A | .1460 | .1340 | .1439 | .1379 | .1640 | .1585 | .1640 | .1460 | .1607 | .1487 | .1340 | .1416 | 3B |
| | | | .1458 | .1336 | .1441 | .1383 | .1639 | .1586 | .1644 | .1462 | .1603 | .1485 | .1341 | .1415 | |
| 10-24 or 0.190-24 | UNC | 2A | .1619 | .1439 | .1586 | .1496 | .1890 | .1818 | .1900 | .1629 | .1852 | .1672 | .1450 | .1560 | 2B |
| | | | .1616 | .1434 | .1589 | .1501 | .1889 | .1819 | .1905 | .1632 | .1847 | .1669 | .1451 | .1559 | |
| | | 3A | .1629 | .1449 | .1604 | .1514 | .1900 | .1828 | .1900 | .1629 | .1841 | .1661 | .1450 | .1555 | 3B |
| | | | .1626 | .1444 | .1607 | .1519 | .1899 | .1829 | .1905 | .1632 | .1836 | .1658 | .1451 | .1554 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 10-32 or 0.190-32 | UNF | 2A | 0.1688 | 0.1553 | 0.1658 | 0.1590 | 0.1891 | 0.1831 | 0.1900 | 0.1697 | 0.1871 | 0.1736 | 0.1560 | 0.1640 | 2B |
| | | | .1685 | .1548 | .1661 | .1595 | .1890 | .1832 | .1905 | .1700 | .1866 | .1733 | .1561 | .1639 | |
| | | 3A | .1697 | .1562 | .1674 | .1606 | .1900 | .1840 | .1900 | .1697 | .1861 | .1726 | .1560 | .1641 | 3B |
| | | | .1694 | .1557 | .1677 | .1611 | .1899 | .1841 | .1905 | .1700 | .1856 | .1723 | .1561 | .1640 | |
| 12-24 or 0.216-24 | UNC | 2A | .1879 | .1699 | .1845 | .1755 | .2150 | .2078 | .2160 | .1889 | .2113 | .1933 | .1710 | .1810 | 2B |
| | | | .1876 | .1694 | .1848 | .1760 | .2149 | .2079 | .2165 | .1892 | .2108 | .1930 | .1711 | .1809 | |
| | | 3A | .1889 | .1709 | .1863 | .1773 | .2160 | .2088 | .2160 | .1889 | .2102 | .1922 | .1710 | .1807 | 3B |
| | | | .1886 | .1704 | .1866 | .1778 | .2159 | .2089 | .2165 | .1892 | .2097 | .1919 | .1711 | .1806 | |
| 12-28 or 0.216-28 | UNF | 2A | .1918 | .1763 | .1886 | .1809 | .2150 | .2085 | .2160 | .1928 | .2125 | .1970 | .1770 | .1860 | 2B |
| | | | .1915 | .1758 | .1889 | .1814 | .2149 | .2086 | .2165 | .1931 | .2120 | .1967 | .1771 | .1859 | |
| | | 3A | .1928 | .1773 | .1904 | .1827 | .2160 | .2095 | .2160 | .1928 | .2114 | .1959 | .1770 | .1857 | 3B |
| | | | .1925 | .1768 | .1907 | .1832 | .2159 | .2096 | .2165 | .1931 | .2109 | .1956 | .1771 | .1856 | |
| 12-32 or 0.216-32 | UNEF | 2A | .1948 | .1813 | .1917 | .1849 | .2151 | .2091 | .2160 | .1957 | .2133 | .1998 | .1820 | .1900 | 2B |
| | | | .1945 | .1808 | .1920 | .1854 | .2150 | .2092 | .2165 | .1960 | .2128 | .1995 | .1821 | .1899 | |
| | | 3A | .1957 | .1822 | .1933 | .1865 | .2160 | .2100 | .2160 | .1957 | .2123 | .1988 | .1820 | .1895 | 3B |
| | | | .1954 | .1817 | .1936 | .1870 | .2159 | .2101 | .2165 | .1960 | .2118 | .1985 | .1821 | .1894 | |
| ¼-20 or 0.250-20 | UNC | 1A | .2164 | .1947 | .2108 | .2000 | .2489 | .2367 | .2500 | .2175 | .2465 | .2248 | .1960 | .2070 | 1B |
| | | | .2161 | .1942 | .2111 | .2005 | .2488 | .2368 | .2505 | .2178 | .2460 | .2245 | .1961 | .2069 | |
| | | 2A | .2164 | .1947 | .2127 | .2019 | .2489 | .2408 | .2500 | .2175 | .2441 | .2224 | .1960 | .2070 | 2B |
| | | | .2161 | .1942 | .2130 | .2024 | .2488 | .2409 | .2505 | .2178 | .2436 | .2221 | .1961 | .2069 | |
| | | 3A | .2175 | .1958 | .2147 | .2039 | .2500 | .2419 | .2500 | .2175 | .2428 | .2211 | .1960 | .2067 | 3B |
| | | | .2172 | .1953 | .2150 | .2044 | .2499 | .2420 | .2505 | .2178 | .2423 | .2208 | .1961 | .2066 | |
| ¼-28 or 0.250-28 | UNF | 1A | .2258 | .2103 | .2208 | .2131 | .2490 | .2392 | .2500 | .2268 | .2488 | .2333 | .2110 | .2200 | 1B |
| | | | .2255 | .2098 | .2211 | .2136 | .2489 | .2393 | .2505 | .2271 | .2483 | .2330 | .2111 | .2199 | |
| | | 2A | .2258 | .2103 | .2225 | .2148 | .2490 | .2425 | .2500 | .2268 | .2466 | .2311 | .2110 | .2200 | 2B |
| | | | .2255 | .2098 | .2228 | .2153 | .2489 | .2426 | .2505 | .2271 | .2461 | .2308 | .2111 | .2199 | |
| | | 3A | .2268 | .2113 | .2243 | .2166 | .2500 | .2435 | .2500 | .2268 | .2455 | .2300 | .2110 | .2190 | 3B |
| | | | .2265 | .2108 | .2246 | .2171 | .2499 | .2436 | .2505 | .2271 | .2450 | .2297 | .2111 | .2189 | |
| ¼-32 or 0.250-32 | UNEF | 2A | .2287 | .2152 | .2255 | .2187 | .2490 | .2430 | .2500 | .2297 | .2474 | .2339 | .2160 | .2240 | 2B |
| | | | .2284 | .2147 | .2258 | .2192 | .2489 | .2431 | .2505 | .2300 | .2469 | .2336 | .2161 | .2239 | |
| | | 3A | .2297 | .2162 | .2273 | .2205 | .2500 | .2440 | .2500 | .2297 | .2463 | .2328 | .2160 | .2229 | 3B |
| | | | .2294 | .2157 | .2276 | .2210 | .2499 | .2441 | .2505 | .2300 | .2458 | .2325 | .2161 | .2228 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 5/16-18 or 0.3125-18 | UNC | 1A | 0.2752 | 0.2511 | 0.2691 | 0.2571 | 0.3113 | 0.2982 | 0.3125 | 0.2764 | 0.3084 | 0.2843 | 0.2520 | 0.2650 | 1B |
| | | | .2749 | .2506 | .2694 | .2576 | .3112 | .2983 | .3130 | .2767 | .3079 | .2840 | .2521 | .2649 | |
| | | 2A | .2752 | .2511 | .2712 | .2592 | .3113 | .3026 | .3125 | .2764 | .3058 | .2817 | .2520 | .2650 | 2B |
| | | | .2749 | .2506 | .2715 | .2597 | .3112 | .3027 | .3130 | .2767 | .3053 | .2814 | .2521 | .2649 | |
| | | 3A | .2764 | .2523 | .2734 | .2614 | .3125 | .3038 | .3125 | .2764 | .3044 | .2803 | .2520 | .2630 | 3B |
| | | | .2761 | .2518 | .2737 | .2619 | .2124 | .3039 | .3130 | .2767 | .3039 | .2800 | .2521 | .2629 | |
| 5/16-20 or 0.3125-20 | UN | 2A | .2788 | .2571 | .2748 | .2640 | .3113 | .3032 | .3125 | .2800 | .3069 | .2852 | .2580 | .2700 | 2B |
| | | | .2785 | .2566 | .2751 | .2645 | .3112 | .3033 | .3130 | .2803 | .3064 | .2849 | .2581 | .2699 | |
| | | 3A | .2800 | .2583 | .2770 | .2662 | .3125 | .3044 | .3125 | .2800 | .3056 | .2839 | .2580 | .2680 | 3B |
| | | | .2797 | .2578 | .2773 | .2667 | .3124 | .3045 | .3130 | .2803 | .3051 | .2836 | .2581 | .2679 | |
| 5/16-24 or 0.3125-24 | UNF | 1A | .2843 | .2663 | .2788 | .2698 | .3114 | .3006 | .3125 | .2854 | .3105 | .2925 | .2670 | .2770 | 1B |
| | | | .2840 | .2658 | .2791 | .2703 | .3113 | .3007 | .3130 | .2857 | .3100 | .2922 | .2671 | .2769 | |
| | | 2A | .2843 | .2663 | .2806 | .2716 | .3114 | .3042 | .3125 | .2854 | .3082 | .2902 | .2670 | .2770 | 2B |
| | | | .2840 | .2658 | .2809 | .2721 | .3113 | .3043 | .3130 | .2857 | .3077 | .2899 | .2671 | .2769 | |
| | | 3A | .2854 | .2674 | .2827 | .2737 | .3125 | .3053 | .3125 | .2854 | .3070 | .2890 | .2670 | .2754 | 3B |
| | | | .2851 | .2669 | .2830 | .2742 | .3124 | .3054 | .3130 | .2857 | .3065 | .2887 | .2671 | .2753 | |
| 5/16-28 or 0.3125-28 | UN | 2A | .2883 | .2728 | .2849 | .2772 | .3115 | .3050 | .3125 | .2893 | .3092 | .2937 | .2740 | .2820 | 2B |
| | | | .2880 | .2723 | .2852 | .2777 | .3114 | .3051 | .3130 | .2896 | .3087 | .2934 | .2741 | .2819 | |
| | | 3A | .2893 | .2738 | .2867 | .2790 | .3125 | .3060 | .3125 | .2893 | .3081 | .2926 | .2740 | .2807 | 3B |
| | | | .2890 | .2733 | .2870 | .2795 | .3124 | .3061 | .3130 | .2896 | .3076 | .2923 | .2741 | .2806 | |
| 5/16-32 or 0.3125-32 | UNEF | 2A | .2912 | .2777 | .2880 | .2812 | .3115 | .3055 | .3125 | .2922 | .3099 | .2964 | .2790 | .2860 | 2B |
| | | | .2909 | .2772 | .2883 | .2817 | .3114 | .3056 | .3130 | .2925 | .3094 | .2961 | .2791 | .2859 | |
| | | 3A | .2922 | .2787 | .2898 | .2830 | .3125 | .3065 | .3125 | .2922 | .3088 | .2953 | .2790 | .2847 | 3B |
| | | | .2919 | .2782 | .2901 | .2835 | .3124 | .3066 | .3130 | .2925 | .3083 | .2950 | .2791 | .2846 | |
| 3/8-16 or 0.375-16 | UNC | 1A | .3331 | .3060 | .3266 | .3131 | .3737 | .3595 | .3750 | .3344 | .3700 | .3429 | .3070 | .3210 | 1B |
| | | | .3328 | .3054 | .3269 | .3137 | .3736 | .3596 | .3756 | .3347 | .3694 | .3426 | .3071 | .3209 | |
| | | 2A | .3331 | .3060 | .3287 | .3152 | .3737 | .3643 | .3750 | .3344 | .3672 | .3401 | .3070 | .3210 | 2B |
| | | | .3328 | .3054 | .3290 | .3158 | .3736 | .3644 | .3756 | .3347 | .3666 | .3398 | .3071 | .3209 | |
| | | 3A | .3344 | .3073 | .3311 | .3176 | .3750 | .3656 | .3750 | .3344 | .3658 | .3387 | .3070 | .3182 | 3B |
| | | | .3341 | .3067 | .3314 | .3182 | .3749 | .3657 | .3756 | .3347 | .3652 | .3384 | .3071 | .3181 | |
| 3/8-20 or 0.375-20 | UN | 2A | .3413 | .3196 | .3372 | .3264 | .3738 | .3657 | .3750 | .3425 | .3696 | .3479 | .3210 | .3320 | 2B |
| | | | .3410 | .3191 | .3375 | .3269 | .3737 | .3658 | .3755 | .3428 | .3691 | .3476 | .3211 | .3319 | |
| | | 3A | .3425 | .3208 | .3394 | .3286 | .3750 | .3669 | .3750 | .3425 | .3682 | .3465 | .3210 | .3297 | 3B |
| | | | .3422 | .3203 | .3397 | .3291 | .3749 | .3670 | .3755 | .3428 | .3677 | .3462 | .3211 | .3296 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 3/8-24 or 0.375-24 | UNF | 1A | 0.3468 | 0.3288 | 0.3411 | 0.3321 | 0.3739 | 0.3631 | 0.3750 | 0.3479 | 0.3733 | 0.3553 | 0.3300 | 0.3400 | 1B |
| | | | .3465 | .3283 | .3414 | .3326 | .3738 | .3632 | .3755 | .3482 | .3728 | .3550 | .3301 | .3399 | |
| | | 2A | .3468 | .3288 | .3430 | .3340 | .3739 | .3667 | .3750 | .3479 | .3708 | .3528 | .3300 | .3400 | 2B |
| | | | .3465 | .3283 | .3433 | .3345 | .3738 | .3668 | .3755 | .3482 | .3703 | .3525 | .3301 | .3399 | |
| | | 3A | .3479 | .3299 | .3450 | .3360 | .3750 | .3678 | .3750 | .3479 | .3696 | .3516 | .3300 | .3372 | 3B |
| | | | .3476 | .3294 | .3453 | .3365 | .3749 | .3679 | .3755 | .3482 | .3691 | .3513 | .3301 | .3371 | |
| 3/8-28 or 0.375-28 | UN | 2A | .3507 | .3352 | .3471 | .3394 | .3739 | .3674 | .3750 | .3518 | .3719 | .3564 | .3360 | .3450 | 2B |
| | | | .3504 | .3347 | .3474 | .3399 | .3738 | .3675 | .3755 | .3521 | .3714 | .3561 | .3361 | .3449 | |
| | | 3A | .3518 | .3363 | .3491 | .3414 | .3750 | .3685 | .3750 | .3518 | .3708 | .3553 | .3360 | .3426 | 3B |
| | | | .3515 | .3358 | .3494 | .3419 | .3749 | .3686 | .3755 | .3521 | .3703 | .3550 | .3361 | .3425 | |
| 3/8-32 or 0.375-32 | UNEF | 2A | .3537 | .3402 | .3503 | .3435 | .3740 | .3680 | .3750 | .3547 | .3726 | .3591 | .3410 | .3490 | 2B |
| | | | .3534 | .3397 | .3506 | .3440 | .3739 | .3681 | .3755 | .3550 | .3721 | .3588 | .3411 | .3489 | |
| | | 3A | .3547 | .3412 | .3522 | .3454 | .3750 | .3690 | .3750 | .3547 | .3715 | .3580 | .3410 | .3469 | 3B |
| | | | .3544 | .3407 | .3525 | .3459 | .3749 | .3691 | .3755 | .3550 | .3710 | .3577 | .3411 | .3468 | |
| 7/16-14 or 0.4375-14 | UNC | 1A | .3897 | .3588 | .3826 | .3671 | .4361 | .4206 | .4375 | .3911 | .4312 | .4003 | .3600 | .3760 | 1B |
| | | | .3894 | .3582 | .3829 | .3677 | .4360 | .4207 | .4381 | .3914 | .4306 | .4000 | .3601 | .3759 | |
| | | 2A | .3897 | .3588 | .3850 | .3695 | .4361 | .4258 | .4375 | .3911 | .4281 | .3972 | .3600 | .3760 | 2B |
| | | | .3894 | .3582 | .3853 | .3701 | .4360 | .4259 | .4381 | .3914 | .4275 | .3969 | .3601 | .3759 | |
| | | 3A | .3911 | .3602 | .3876 | .3721 | .4375 | .4272 | .4375 | .3911 | .4266 | .3957 | .3600 | .3717 | 3B |
| | | | .3908 | .3596 | .3879 | .3727 | .4374 | .4273 | .4381 | .3914 | .4260 | .3954 | .3601 | .3716 | |
| 7/16-16 or 0.4375-16 | UN | 2A | .3955 | .3684 | .3909 | .3774 | .4361 | .4267 | .4375 | .3969 | .4299 | .4028 | .3700 | .3840 | 2B |
| | | | .3952 | .3678 | .3912 | .3780 | .4360 | .4268 | .4381 | .3972 | .4293 | .4025 | .3701 | .3839 | |
| | | 3A | .3969 | .3698 | .3935 | .3800 | .4375 | .4281 | .4375 | .3969 | .4285 | .4014 | .3700 | .3800 | 3B |
| | | | .3966 | .3692 | .3938 | .3806 | .4374 | .4282 | .4381 | .3972 | .4279 | .4011 | .3701 | .3799 | |
| 7/16-20 or 0.4375-20 | UNF | 1A | .4037 | .3820 | .3974 | .3866 | .4362 | .4240 | .4375 | .4050 | .4348 | .4131 | .3830 | .3950 | 1B |
| | | | .4034 | .3815 | .3977 | .3871 | .4361 | .4241 | .4380 | .4053 | .4343 | .4128 | .3831 | .3949 | |
| | | 2A | .4037 | .3820 | .3995 | .3887 | .4362 | .4281 | .4375 | .4050 | .4321 | .4104 | .3830 | .3950 | 2B |
| | | | .4034 | .3815 | .3998 | .3892 | .4361 | .4282 | .4380 | .4053 | .4316 | .4101 | .3831 | .3949 | |
| | | 3A | .4050 | .3833 | .4019 | .3911 | .4375 | .4294 | .4375 | .4050 | .4308 | .4091 | .3830 | .3916 | 3B |
| | | | .4047 | .3828 | .4022 | .3916 | .4374 | .4295 | .4380 | .4053 | .4303 | .4088 | .3831 | .3915 | |
| 7/16-28 or 0.4375-28 | UNEF | 2A | .4132 | .3977 | .4096 | .4019 | .4364 | .4299 | .4375 | .4143 | .4344 | .4189 | .3990 | .4070 | 2B |
| | | | .4129 | .3972 | .4099 | .4024 | .4363 | .4300 | .4380 | .4146 | .4339 | .4186 | .3991 | .4069 | |
| | | 3A | .4143 | .3988 | .4116 | .4039 | .4375 | .4310 | .4375 | .4143 | .4333 | .4178 | .3990 | .4051 | 3B |
| | | | .4140 | .3983 | .4119 | .4044 | .4374 | .4311 | .4380 | .4146 | .4328 | .4175 | .3991 | .4050 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 7/16-32 or 0.4375-32 | UN | 2A | 0.4162 | 0.4027 | 0.4128 | 0.4060 | 0.4365 | 0.4305 | 0.4375 | 0.4172 | 0.4351 | 0.4216 | 0.4040 | 0.4110 | 2B |
| | | | .4159 | .4022 | .4131 | .4065 | .4364 | .4306 | .4380 | .4175 | .4346 | .4213 | .4041 | .4109 | |
| | | 3A | .4172 | .4037 | .4147 | .4079 | .4375 | .4315 | .4375 | .4172 | .4340 | .4205 | .4040 | .4094 | 3B |
| | | | .4169 | .4032 | .4150 | .4084 | .4374 | .4316 | .4380 | .4175 | .4335 | .4202 | .4041 | .4093 | |
| 1/2-13 or 0.500-13 | UNC | 1A | .4485 | .4152 | .4411 | .4245 | .4985 | .4822 | .5000 | .4500 | .4930 | .4597 | .4170 | .4340 | 1B |
| | | | .4482 | .4146 | .4414 | .4251 | .4984 | .4823 | 5006 | .4503 | .4924 | .4594 | .4171 | .4339 | |
| | | 2A | .4485 | .4152 | .4435 | .4269 | .4985 | .4876 | .5000 | .4500 | .4898 | .4565 | .4170 | .4340 | 2B |
| | | | .4482 | .4146 | .4438 | .4275 | .4984 | .4877 | .5006 | .4503 | .4892 | .4562 | .4171 | .4339 | |
| | | 3A | .4500 | .4167 | .4463 | .4297 | .5000 | .4891 | .5000 | .4500 | .4881 | .4548 | .4170 | .4284 | 3B |
| | | | .4497 | .4161 | .4466 | .4303 | .4999 | .4892 | .5006 | .4503 | .4875 | .4545 | .4171 | .4283 | |
| 1/2-16 or 0.500-16 | UN | 2A | .4580 | .4309 | .4533 | .4398 | .4986 | .4892 | .5000 | .4594 | .4926 | .4655 | .4320 | .4460 | 2B |
| | | | .4577 | .4303 | .4536 | .4404 | .4985 | .4893 | .5006 | .4597 | .4920 | .4652 | .4321 | .4459 | |
| | | 3A | .4594 | .4323 | .4559 | .4424 | .5000 | .4906 | .5000 | .4594 | .4911 | .4640 | .4320 | .4419 | 3B |
| | | | .4591 | .4317 | .4562 | .4430 | .4999 | .4907 | .5006 | .4597 | .4905 | .4637 | .4321 | .4418 | |
| 1/2-20 or 0.500-20 | UNF | 1A | .4662 | .4445 | .4598 | .4490 | .4987 | .4865 | .5000 | .4675 | .4976 | .4759 | .4460 | .4570 | 1B |
| | | | .4659 | .4440 | .4601 | .4495 | .4986 | .4866 | .5005 | .4678 | .4971 | .4756 | .4461 | .4569 | |
| | | 2A | .4662 | .4445 | .4619 | .4511 | .4987 | .4906 | .5000 | .4675 | .4948 | .4731 | .4460 | .4570 | 2B |
| | | | .4659 | .4440 | .4622 | .4516 | .4986 | .4907 | .5005 | .4678 | .4943 | .4728 | .4461 | .4569 | |
| | | 3A | .4675 | .4458 | .4643 | .4535 | .5000 | .4919 | .5000 | .4675 | .4934 | .4717 | .4460 | .4537 | 3B |
| | | | .4672 | .4453 | .4646 | .4540 | .4999 | .4920 | .5005 | .4678 | .4929 | .4714 | .4461 | .4536 | |
| 1/2-28 or 0.500-28 | UNEF | 2A | .4757 | .4602 | .4720 | .4643 | .4989 | .4924 | .5000 | .4768 | .4971 | .4816 | .4610 | .4700 | 2B |
| | | | .4754 | .4597 | .4723 | .4648 | .4988 | .4925 | .5005 | .4771 | .4966 | .4813 | .4611 | .4699 | |
| | | 3A | .4768 | .4613 | .4740 | .4663 | .5000 | .4935 | .5000 | .4768 | .4959 | .4804 | .4610 | .4676 | 3B |
| | | | .4765 | .4608 | .4743 | .4668 | .4999 | .4936 | .5005 | .4771 | .4954 | .4801 | .4611 | .4675 | |
| 1/2-32 or 0.500-32 | UN | 2A | .4787 | .4652 | .4752 | .4684 | .4990 | .4930 | .5000 | .4797 | .4977 | .4842 | .4660 | .4740 | 2B |
| | | | .4784 | .4647 | .4755 | .4689 | .4989 | .4931 | .5005 | .4800 | .4972 | .4839 | .4661 | .4739 | |
| | | 3A | .4797 | .4662 | .4771 | .4703 | .5000 | .4940 | .5000 | .4797 | .4966 | .4831 | .4660 | .4719 | 3B |
| | | | .4794 | .4657 | .4774 | .4708 | .4999 | .4941 | .5005 | .4800 | .4961 | .4828 | .4661 | .4718 | |
| 9/16-12 or 0.5625-12 | UNC | 1A | .5068 | .4707 | .4990 | .4810 | .5609 | .5437 | .5625 | .5084 | .5547 | .5186 | .4720 | .4900 | 1B |
| | | | .5065 | .4701 | .4993 | .4816 | .5608 | .5438 | .5631 | .5087 | .5541 | .5183 | .4721 | .4899 | |
| | | 2A | .5068 | .4707 | .5016 | .4836 | .5609 | .5495 | .5625 | .5084 | .5513 | .5152 | .4720 | .4900 | 2B |
| | | | .5065 | .4701 | .5019 | .4842 | .5608 | .5496 | .5631 | .5087 | .5507 | .5149 | .4721 | .4899 | |
| | | 3A | .5084 | .4723 | .5045 | .4865 | .5625 | .5511 | .5625 | .5084 | .5496 | .5135 | .4720 | .4843 | 3B |
| | | | .5081 | .4717 | .5048 | .4871 | .5624 | .5512 | .5631 | .5087 | .5490 | .5132 | .4721 | .4842 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 9/16-16 or 0.5625-16 | UN | 2A | 0.5205 | 0.4934 | 0.5158 | 0.5023 | 0.5611 | 0.5517 | 0.5625 | 0.5219 | 0.5551 | 0.5280 | 0.4950 | 0.5090 | 2B |
| | | | .5202 | .4928 | .5161 | .5029 | .5610 | .5518 | .5631 | .5222 | .5545 | .5277 | .4951 | .5089 | |
| | | 3A | .5219 | .4948 | .5184 | .5049 | .5625 | .5531 | .5625 | .5219 | .5536 | .5265 | .4950 | .5040 | 3B |
| | | | .5216 | .4942 | .5187 | .5055 | .5624 | .5532 | .5631 | .5222 | .5530 | .5262 | .4951 | .5039 | |
| 9/16-18 or 0.5625-18 | UNF | 1A | .5250 | .5009 | .5182 | .5062 | .5611 | .5480 | .5625 | .5264 | .5594 | .5353 | .5020 | .5150 | 1B |
| | | | .5247 | .5004 | .5185 | .5067 | .5610 | .5481 | .5630 | .5267 | .5589 | .5350 | .5021 | .5149 | |
| | | 2A | .5250 | .5009 | .5205 | .5085 | .5611 | .5524 | .5625 | .5264 | .5564 | .5323 | .5020 | .5150 | 2B |
| | | | .5247 | .5004 | .5208 | .5090 | .5610 | .5525 | .5630 | .5267 | .5559 | .5320 | .5021 | .5149 | |
| | | 3A | .5264 | .5023 | .5230 | .5110 | .5625 | .5538 | .5625 | .5264 | .5549 | .5308 | .5020 | .5106 | 3B |
| | | | .5261 | .5018 | .5233 | .5115 | .5624 | .5539 | .5630 | .5267 | .5544 | .5305 | .5021 | .5105 | |
| 9/16-20 or 0.5625-20 | UN | 2A | .5287 | .5070 | .5245 | .5137 | .5612 | .5531 | .5625 | .5300 | .5572 | .5355 | .5080 | .5200 | 2B |
| | | | .5284 | .5065 | .5248 | .5142 | .5611 | .5532 | .5630 | .5303 | .5567 | .5352 | .5081 | .5199 | |
| | | 3A | .5300 | .5083 | .5268 | .5160 | .5625 | .5544 | .5625 | .5300 | .5558 | .5341 | .5080 | .5162 | 3B |
| | | | .5297 | .5078 | .5271 | .5165 | .5624 | .5545 | .5630 | .5303 | .5553 | .5338 | .5081 | .5161 | |
| 9/16-24 or 0.5625-24 | UNEF | 2A | .5342 | .5162 | .5303 | .5213 | .5613 | .5541 | .5625 | .5354 | .5585 | .5405 | .5170 | .5270 | 2B |
| | | | .5339 | .5157 | .5306 | .5218 | .5612 | .5542 | .5630 | .5357 | .5580 | .5402 | .5171 | .5269 | |
| | | 3A | .5354 | .5174 | .5325 | .5235 | .5625 | .5553 | .5625 | .5354 | .5572 | .5392 | .5170 | .5244 | 3B |
| | | | .5351 | .5169 | .5328 | .5240 | .5624 | .5554 | .5630 | .5357 | .5567 | .5389 | .5171 | .5243 | |
| 9/16-28 or 0.5625-28 | UN | 2A | .5382 | .5227 | .5345 | .5268 | .5614 | .5549 | .5625 | .5393 | .5596 | .5441 | .5240 | .5320 | 2B |
| | | | .5379 | .5222 | .5348 | .5273 | .5613 | .5550 | .5630 | .5396 | .5591 | .5438 | .5241 | .5319 | |
| | | 3A | .5393 | .5238 | .5365 | .5288 | .5625 | .5560 | .5625 | .5393 | .5584 | .5429 | .5240 | .5301 | 3B |
| | | | .5390 | .5233 | .5368 | .5293 | .5624 | .5561 | .5630 | .5396 | .5579 | .5426 | .5241 | .5300 | |
| 9/16-32 or 0.5625-32 | UN | 2A | .5412 | .5277 | .5377 | .5309 | .5615 | .5555 | .5625 | .5422 | .5602 | .5467 | .5290 | .5360 | 2B |
| | | | .5409 | .5272 | .5380 | .5314 | .5614 | .5556 | .5630 | .5425 | .5597 | .5464 | .5291 | .5359 | |
| | | 3A | .5422 | .5287 | .5396 | .5328 | .5625 | .5565 | .5625 | .5422 | .5591 | .5456 | .5290 | .5344 | 3B |
| | | | .5419 | .5282 | .5399 | .5333 | .5624 | .5566 | .5630 | .5425 | .5586 | .5453 | .5291 | .5343 | |
| 5/8-11 or 0.625-11 | UNC | 1A | .5644 | .5250 | .5561 | .5364 | .6234 | .6052 | .6250 | .5660 | .6161 | .5767 | .5270 | .5460 | 1B |
| | | | .5641 | .5244 | .5564 | .5370 | .6233 | .6053 | .6256 | .5663 | .6155 | .5764 | .5271 | .5459 | |
| | | 2A | .5644 | .5250 | .5589 | .5392 | .6234 | .6113 | .6250 | .5660 | .6126 | .5732 | .5270 | .5460 | 2B |
| | | | .5641 | .5244 | .5592 | .5398 | .6233 | .6114 | .6256 | .5663 | .6120 | .5729 | .5271 | .5459 | |
| | | 3A | .5660 | .5266 | .5619 | .5422 | .6250 | .6129 | .6250 | .5660 | .6108 | .5714 | .5270 | .5391 | 3B |
| | | | .5657 | .5260 | .5622 | .5428 | .6249 | .6130 | .6256 | .5663 | .6102 | .5711 | .5271 | .5390 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 5/8-12 or 0.625-12 | UN | 2A | 0.5693 | 0.5332 | 0.5639 | 0.5459 | 0.6234 | 0.6120 | 0.6250 | 0.5709 | 0.6141 | 0.5780 | 0.5350 | 0.5530 | 2B |
| | | | .5690 | .5326 | .5642 | .5465 | .6233 | .6121 | .6256 | .5712 | .6135 | .5777 | .5351 | .5529 | |
| | | 3A | .5709 | .5348 | .5668 | .5488 | .6250 | .6136 | .6250 | .5709 | .6123 | .5762 | .5350 | .5463 | 3B |
| | | | .5706 | .5342 | .5671 | .5494 | .6249 | .6137 | .6256 | .5712 | .6117 | .5759 | .5351 | .5462 | |
| 5/8-16 or 0.625-16 | UN | 2A | .5830 | .5559 | .5782 | .5647 | .6236 | .6142 | .6250 | .5844 | .6177 | .5906 | .5650 | .5710 | 2B |
| | | | .5827 | .5553 | .5785 | .5653 | .6235 | .6143 | .6256 | .5847 | .6171 | .5903 | .5571 | .5709 | |
| | | 3A | .5844 | .5573 | .5808 | .5673 | .6250 | .6156 | .6250 | .5844 | .6161 | .5890 | .5570 | .5662 | 3B |
| | | | .5841 | .5567 | .5811 | .5679 | .6249 | .6157 | .6256 | .5847 | .6155 | .5887 | .5571 | .5661 | |
| 5/8-18 or 0.625-18 | UNF | 1A | .5875 | .5634 | .5805 | .5685 | .6236 | .6105 | .6250 | .5889 | .6221 | .5980 | .5650 | .5780 | 1B |
| | | | .5872 | .5629 | .5808 | .5690 | .6235 | .6106 | .6255 | .5892 | .6216 | .5977 | .5651 | .5779 | |
| | | 2A | .5875 | .5634 | .5828 | .5708 | .6236 | .6149 | .6250 | .5889 | .6190 | .5949 | .5650 | .5780 | 2B |
| | | | .5872 | .5629 | .5831 | .5713 | .6235 | .6150 | .6255 | .5892 | .6185 | .5946 | .5651 | .5779 | |
| | | 3A | .5889 | .5648 | .5854 | .5734 | .6250 | .6163 | .6250 | .5889 | .6175 | .5934 | .5650 | .5730 | 3B |
| | | | .5886 | .5643 | .5857 | .5739 | .6249 | .6164 | .6255 | .5892 | .6170 | .5931 | .5651 | .5729 | |
| 5/8-20 or 0.625-20 | UN | 2A | .5912 | .5695 | .5869 | .5761 | .6237 | .6156 | .6250 | .5925 | .6198 | .5981 | .5710 | .5820 | 2B |
| | | | .5909 | .5690 | .5872 | .5766 | .6236 | .6157 | .6255 | .5928 | .6193 | .5978 | .5711 | .5819 | |
| | | 3A | .5925 | .5708 | .5893 | .5785 | .6250 | .6169 | .6250 | .5925 | .6184 | .5967 | .5710 | .5787 | 3B |
| | | | .5922 | .5703 | .5896 | .5790 | .6249 | .6170 | .6255 | .5928 | .6179 | .5964 | .5711 | .5786 | |
| 5/8-24 or 0.625-24 | UNEF | 2A | .5967 | .5787 | .5927 | .5837 | .6238 | .6166 | .6250 | .5979 | .6211 | .6031 | .5800 | .5900 | 2B |
| | | | .5964 | .5782 | .5930 | 5842 | .6237 | .6167 | .6255 | .5982 | .6206 | .6028 | .5801 | .5899 | |
| | | 3A | .5979 | .5799 | .5949 | .5859 | .6250 | .6178 | .6250 | .5979 | .6198 | .6018 | .5800 | .5869 | 3B |
| | | | .5976 | .5794 | .5952 | .5864 | .6249 | .6179 | .6255 | .5982 | .6193 | .6015 | .5801 | .5868 | |
| 5/8-28 or 0.625-28 | UN | 2A | .6007 | .5852 | .5969 | .5892 | .6239 | .6174 | .6250 | .6018 | .6222 | .6067 | .5860 | .5950 | 2B |
| | | | .6004 | .5847 | .5972 | .5897 | .6238 | .6175 | .6255 | .6021 | .6217 | .6064 | .5861 | .5949 | |
| | | 3A | .6018 | .5863 | .5990 | .5913 | .6250 | .6185 | .6250 | .6018 | .6210 | .6055 | .5860 | .5926 | 3B |
| | | | .6015 | .5858 | .5993 | .5918 | .6249 | .6186 | .6255 | .6021 | .6205 | .6052 | .5861 | .5925 | |
| 5/8-32 or 0.625-32 | UN | 2A | .6036 | .5901 | .6000 | .5932 | .6239 | .6179 | .6250 | .6047 | .6228 | .6093 | .5910 | .5990 | 2B |
| | | | .6033 | .5896 | .6003 | .5937 | .6238 | .6180 | .6255 | .6050 | .6223 | .6090 | .5911 | .5989 | |
| | | 3A | .6047 | .5912 | .6020 | .5952 | .6250 | .6190 | .6250 | .6047 | .6217 | .6082 | .5910 | .5969 | 3B |
| | | | .6044 | .5907 | .6023 | .5957 | .6249 | .6191 | .6255 | .6050 | .6212 | .6079 | .5911 | .5968 | |
| 11/16-12 or 0.6875-12 | UN | 2A | .6318 | .5957 | .6264 | .6084 | .6859 | .6745 | .6875 | .6334 | .6766 | .6405 | .5970 | .6150 | 2B |
| | | | .6315 | .5951 | .6267 | .6090 | .6858 | .6746 | .6881 | .6337 | .6760 | .6402 | .5971 | .6149 | |
| | | 3A | .6334 | .5973 | .6293 | .6113 | .6875 | .6761 | .6875 | .6334 | .6748 | .6387 | .5970 | .6085 | 3B |
| | | | .6331 | .5967 | .6296 | .6119 | .6874 | .6762 | .6881 | .6337 | .6742 | .6384 | .5971 | .6084 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1 1/16-16 or 0.6875-16 | UN | 2A | 0.6455 | 0.6184 | 0.6407 | 0.6272 | 0.6861 | 0.6767 | 0.6875 | 0.6469 | 0.6802 | 0.6531 | 0.6200 | 0.6340 | 2B |
| | | | .6452 | .6178 | .6410 | .6278 | .6860 | .6768 | .6881 | .6472 | .6796 | .6528 | .6201 | .6339 | |
| | | 3A | .6469 | .6198 | .6433 | .6298 | .6875 | .6781 | .6875 | .6469 | .6786 | .6515 | .6200 | .6284 | 3B |
| | | | .6466 | .6192 | .6436 | .6304 | .6874 | .6782 | .6881 | .6472 | .6780 | .6512 | .6201 | .6283 | |
| 1 1/16-20 or 0.6875-20 | UN | 2A | .6537 | .6320 | .6494 | .6386 | .6862 | .6781 | .6875 | .6550 | .6823 | .6606 | .6330 | .6450 | 2B |
| | | | .6534 | .6315 | .6497 | .6391 | .6861 | .6782 | .6880 | .6553 | .6818 | .6603 | .6331 | .6449 | |
| | | 3A | .6550 | .6333 | .6518 | .6410 | .6875 | .6794 | .6875 | .6550 | .6809 | .6592 | .6330 | .6412 | 3B |
| | | | .6547 | .6328 | .6521 | .6415 | .6874 | .6795 | .6880 | .6553 | .6804 | .6589 | .6331 | .6411 | |
| 1 1/16-24 or 0.6875-24 | UNEF | 2A | .6592 | .6412 | .6552 | .6462 | .6863 | .6791 | .6875 | .6604 | .6836 | .6656 | .6420 | .6520 | 2B |
| | | | .6589 | .6407 | .6555 | .6467 | .6862 | .6792 | .6880 | .6607 | .6831 | .6653 | .6421 | .6519 | |
| | | 3A | .6604 | .6424 | .6574 | .6484 | .6875 | .6803 | .6875 | .6604 | .6823 | .6643 | .6420 | .6494 | 3B |
| | | | .6601 | .6419 | .6577 | .6489 | .6874 | .6804 | .6880 | .6607 | .6818 | .6640 | .6421 | .6493 | |
| 1 1/16-28 or 0.6875-28 | UN | 2A | .6632 | .6477 | .6594 | .6517 | .6864 | .6799 | .6875 | .6643 | .6847 | .6692 | .6490 | .6570 | 2B |
| | | | .6629 | .6472 | .6597 | .6522 | .6863 | .6800 | .6880 | .6646 | .6842 | .6689 | .6491 | .6569 | |
| | | 3A | .6643 | .6488 | .6615 | .6538 | .6875 | .6810 | .6875 | .6643 | .6835 | .6680 | .6490 | .6551 | 3B |
| | | | .6640 | .6483 | .6618 | .6543 | .6874 | .6811 | .6880 | .6646 | .6830 | .6677 | .6491 | .6550 | |
| 1 1/16-32 or 0.6875-32 | UN | 2A | .6661 | .6526 | .6625 | .6557 | .6864 | .6804 | .6875 | .6672 | .6853 | .6718 | .6540 | .6610 | 2B |
| | | | .6658 | .6521 | .6628 | .6562 | .6863 | .6805 | .6880 | .6675 | .6848 | .6715 | .6541 | .6609 | |
| | | 3A | .6672 | .6537 | .6645 | .6577 | .6875 | .6815 | .6875 | .6672 | .6842 | .6707 | .6540 | .6594 | 3B |
| | | | .6669 | .6532 | .6648 | .6582 | .6874 | .6816 | .6880 | .6675 | .6837 | .6704 | .6541 | .6593 | |
| 3/4-10 or 0.750-10 | UNC | 1A | .6832 | .6399 | .6744 | .6528 | .7482 | .7288 | .7500 | .6850 | .7398 | .6965 | .6420 | .6630 | 1B |
| | | | .6829 | .6393 | .6747 | .6534 | .7481 | .7289 | .7506 | .6853 | .7392 | .6962 | .6421 | .6629 | |
| | | 2A | .6832 | .6399 | .6773 | .6557 | .7482 | .7353 | .7500 | .6850 | .7360 | .6927 | .6420 | .6630 | 2B |
| | | | .6829 | .6393 | .6776 | .6563 | .7481 | .7354 | .7506 | .6853 | .7354 | .6924 | .6421 | .6629 | |
| | | 3A | .6850 | .6417 | .6806 | .6590 | .7500 | .7371 | .7500 | .6850 | .7340 | .6907 | .6420 | .6545 | 3B |
| | | | .6847 | .6411 | .6809 | .6596 | .7499 | .7372 | .7506 | .6853 | .7334 | .6904 | .6421 | .6544 | |
| 3/4-12 or 0.750-12 | UN | 2A | .6942 | .6581 | .6887 | .6707 | .7483 | .7369 | .7500 | .6959 | .7392 | .7031 | .6600 | .6780 | 2B |
| | | | .6939 | .6575 | .6890 | .6713 | .7482 | .7370 | .7506 | .6962 | .7386 | .7028 | .6601 | .6779 | |
| | | 3A | .6959 | .6598 | .6918 | .6738 | .7500 | .7386 | .7500 | .6959 | .7374 | .7013 | .6600 | .6707 | 3B |
| | | | .6956 | .6592 | .6921 | .6744 | .7499 | .7387 | .7506 | .6962 | .7368 | .7010 | .6601 | .6706 | |
| 3/4-16 or 0.750-16 | UNF | 1A | .7079 | .6808 | .7004 | .6869 | .7485 | .7343 | .7500 | .7094 | .7463 | .7192 | .6820 | .6960 | 1B |
| | | | .7076 | .6802 | .7007 | .6875 | .7484 | .7344 | .7506 | .7097 | .7457 | .7189 | .6821 | .6959 | |
| | | 2A | .7079 | .6808 | .7029 | .6894 | .7485 | .7391 | .7500 | .7094 | .7430 | .7159 | .6820 | .6960 | 2B |
| | | | .7076 | .6802 | .7032 | .6900 | .7484 | .7392 | .7506 | .7097 | .7424 | .7156 | .6821 | .6959 | |
| | | 3A | .7094 | .6823 | .7056 | .6921 | .7500 | .7406 | .7500 | .7094 | .7414 | .7143 | .6820 | .6908 | 3B |
| | | | .7091 | .6817 | .7059 | .6927 | .7499 | .7407 | .7506 | .7097 | .7408 | .7140 | .6821 | .6907 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 3/4-20 or 0.750-20 | UNEF | 2A | 0.7162 | 0.6945 | 0.7118 | 0.7010 | 0.7487 | 0.7406 | 0.7500 | 0.7175 | 0.7449 | 0.7232 | 0.6960 | 0.7070 | 2B |
| | | | .7159 | .6940 | .7121 | .7015 | .7486 | .7407 | .7505 | .7178 | .7444 | .7229 | .6961 | .7069 | |
| | | 3A | .7175 | .6958 | .7142 | .7034 | .7500 | .7419 | .7500 | .7175 | .7435 | .7218 | .6960 | .7037 | 3B |
| | | | .7172 | .6953 | .7145 | .7039 | .7499 | .7420 | .7505 | .7178 | .7430 | .7215 | .6961 | .7036 | |
| 3/4-28 or 0.750-28 | UN | 2A | .7256 | .7101 | .7218 | .7141 | .7488 | .7423 | .7500 | .7268 | .7473 | .7318 | .7110 | .7200 | 2B |
| | | | .7253 | .7096 | .7221 | .7146 | .7487 | .7424 | .7505 | .7271 | .7468 | .7315 | .7111 | .7199 | |
| | | 3A | .7268 | .7113 | .7239 | .7162 | .7500 | .7435 | .7500 | .7268 | .7460 | .7305 | .7110 | .7176 | 3B |
| | | | .7265 | .7108 | .7242 | .7167 | .7499 | .7436 | .7505 | .7271 | .7455 | .7302 | .7111 | .7175 | |
| 3/4-32 or 0.750-32 | UN | 2A | .7286 | .7151 | .7250 | .7182 | .7489 | .7429 | .7500 | .7297 | .7479 | .7344 | .7160 | .7240 | 2B |
| | | | .7283 | .7146 | .7253 | .7187 | .7488 | .7430 | .7505 | .7300 | .7474 | .7341 | .7161 | .7239 | |
| | | 3A | .7297 | .7162 | .7270 | .7202 | .7500 | .7440 | .7500 | .7297 | .7468 | .7333 | .7160 | .7219 | 3B |
| | | | .7294 | .7157 | .7273 | .7207 | .7499 | .7441 | .7505 | .7300 | .7463 | .7330 | .7161 | .7218 | |
| 13/16-12 or 0.8125-12 | UN | 2A | .7567 | .7206 | .7512 | .7332 | .8108 | .7994 | .8125 | .7584 | .8017 | .7656 | .7220 | .7400 | 2B |
| | | | .7564 | .7200 | .7515 | .7338 | .8107 | .7995 | .8131 | .7587 | .8011 | .7653 | .7221 | .7399 | |
| | | 3A | .7584 | .7223 | .7543 | .7363 | .8125 | .8011 | .8125 | .7584 | .7999 | .7638 | .7220 | .7329 | 3B |
| | | | .7581 | .7217 | .7546 | .7369 | .8124 | .8012 | .8131 | .7587 | .7993 | .7635 | .7221 | .7328 | |
| 13/16-16 or 0.8125-16 | UN | 2A | .7704 | .7433 | .7655 | .7520 | .8110 | .8016 | .8125 | .7719 | .8053 | .7782 | .7450 | .7590 | 2B |
| | | | .7701 | .7427 | .7658 | .7526 | .8109 | .8017 | .8131 | .7722 | .8047 | .7779 | .7451 | .7589 | |
| | | 3A | .7719 | .7448 | .7683 | .7548 | .8125 | .8031 | .8125 | .7719 | .8037 | .7766 | .7450 | .7533 | 3B |
| | | | .7716 | .7442 | .7686 | .7554 | .8124 | .8032 | .8131 | .7722 | .8031 | .7763 | .7451 | .7532 | |
| 13/16-20 or 0.8125-20 | UNEF | 2A | .7787 | .7570 | .7743 | .7635 | .8112 | .8031 | .8125 | .7800 | .8074 | .7857 | .7580 | .7700 | 2B |
| | | | .7784 | .7565 | .7746 | .7640 | .8111 | .8032 | .8130 | .7803 | .8069 | .7854 | .7581 | .7699 | |
| | | 3A | .7800 | .7583 | .7767 | .7659 | .8125 | .8044 | .8125 | .7800 | .8060 | .7843 | .7580 | .7662 | 3B |
| | | | .7797 | .7578 | .7770 | .7664 | .8124 | .8045 | .8130 | .7803 | .8055 | .7840 | .7581 | .7661 | |
| 13/16-28 or 0.8125-28 | UN | 2A | .7881 | .7726 | .7843 | .7766 | .8113 | .8048 | .8125 | .7893 | .8098 | .7943 | .7740 | .7820 | 2B |
| | | | .7878 | .7721 | .7846 | .7771 | .8112 | .8049 | .8130 | .7896 | .8093 | .7940 | .7741 | .7819 | |
| | | 3A | .7893 | .7738 | .7864 | .7787 | .8125 | .8060 | .8125 | .7893 | .8085 | .7930 | .7740 | .7801 | 3B |
| | | | .7890 | .7733 | .7867 | .7792 | .8124 | .8061 | .8130 | .7896 | .8080 | .7927 | .7741 | .7800 | |
| 13/16-32 or 0.8125-32 | UN | 2A | .7911 | .7776 | .7875 | .7807 | .8114 | .8054 | .8125 | .7922 | .8104 | .7969 | .7790 | .7860 | 2B |
| | | | .7908 | .7771 | .7878 | .7812 | .8113 | .8055 | .8130 | .7925 | .8099 | .7966 | .7791 | .7859 | |
| | | 3A | .7922 | .7787 | .7895 | .7827 | .8125 | .8065 | .8125 | .7922 | .8093 | .7958 | .7790 | .7844 | 3B |
| | | | .7919 | .7782 | .7898 | .7832 | .8124 | .8066 | .8130 | .7925 | .8088 | .7955 | .7791 | .7843 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 7/8-9 or .875-9 | UNC | 1A | 0.8009 | 0.7528 | 0.7914 | 0.7673 | 0.87310 | 0.85230 | 0.8750 | 0.8028 | 0.8632 | 0.8151 | 0.75500 | 0.77800 | 1B |
| | | | .8006 | .7521 | .7917 | .7680 | .87298 | .85242 | .8757 | .8031 | .8625 | .8148 | .75512 | .77788 | |
| | | 2A | .8009 | .7528 | .7946 | .7705 | .87310 | .85920 | .8750 | .8028 | .8591 | .8110 | .75500 | .77800 | 2B |
| | | | .8006 | .7521 | .7949 | .7712 | .87298 | .85932 | .8757 | .8031 | .8584 | .8107 | .75512 | .77788 | |
| | | 3A | .8028 | .7547 | .7981 | .7740 | .87500 | .86110 | .8750 | .8028 | .8570 | .8089 | .75500 | .76810 | 3B |
| | | | .8025 | .7540 | .7984 | .7747 | .87488 | .86122 | .8757 | .8031 | .8563 | .8086 | .75512 | .76798 | |
| 7/8-12 or 0.875-12 | UN | 2A | .8192 | .7831 | .8137 | .7957 | .87330 | .86190 | .8750 | .8209 | .8642 | .8281 | .78500 | .80300 | 2B |
| | | | .8189 | .7825 | .8140 | .7963 | .87318 | .86202 | .8756 | .8212 | .8636 | .8278 | .78512 | .80288 | |
| | | 3A | .8209 | .7848 | .8168 | .7988 | .87500 | .86360 | .8750 | .8209 | .8624 | .8263 | .78500 | .79520 | 3B |
| | | | .8206 | .7842 | .8171 | .7994 | .87488 | .86372 | .8756 | .8212 | .8618 | .8260 | .78512 | .79508 | |
| 7/8-14 or 0.875-14 | UNF | 1A | .8270 | .7961 | .8189 | .8034 | .87340 | .85790 | .8750 | .8286 | .8701 | .8392 | .79800 | .81400 | 1B |
| | | | .8267 | .7955 | .8192 | .8040 | .87328 | .85802 | .8756 | .8289 | .8695 | .8389 | .79812 | .81388 | |
| | | 2A | .8270 | .7961 | .8216 | .8061 | .87340 | .86310 | .8750 | .8286 | .8665 | .8356 | .79800 | .81400 | 2B |
| | | | .8267 | .7955 | .8219 | .8067 | .87328 | .86322 | .8756 | .8289 | .8659 | .8353 | .79812 | .81388 | |
| | | 3A | .8286 | .7977 | .8245 | .8090 | .87500 | .86470 | .8750 | .8286 | .8648 | .8339 | .79800 | .80680 | 3B |
| | | | .8283 | .7971 | .8248 | .8096 | .87488 | .86482 | .8756 | .8289 | .8642 | .8336 | .79812 | .80668 | |
| 7/8-16 or 0.875-16 | UN | 2A | .8329 | .8058 | .8280 | .8145 | .87350 | .86410 | .8750 | .8344 | .8678 | .8407 | .80700 | .82100 | 2B |
| | | | .8326 | .8052 | .8283 | .8151 | .87338 | .86422 | .8756 | .8347 | .8672 | .8404 | .80712 | .82088 | |
| | | 3A | .8344 | .8073 | .8308 | .8173 | .87500 | .86560 | .8750 | .8344 | .8662 | .8391 | .80700 | .81580 | 3B |
| | | | .8341 | .8067 | .8311 | .8179 | .87488 | .86572 | .8756 | .8347 | .8656 | .8388 | .80712 | .81568 | |
| 7/8-20 or 0.875-20 | UNEF | 2A | .8412 | .8195 | .8368 | .8260 | .87370 | .86560 | .8750 | .8425 | .8699 | .8482 | .82100 | .83200 | 2B |
| | | | .8409 | .8190 | .8371 | .8265 | .87358 | .86572 | .8755 | .8428 | .8694 | .8479 | .82112 | .83188 | |
| | | 3A | .8425 | .8208 | .8392 | .8284 | .87500 | .86690 | .8750 | .8425 | .8685 | .8468 | .82100 | .82870 | 3B |
| | | | .8422 | .8203 | .8395 | .8289 | .87488 | .86702 | .8755 | .8428 | .8680 | .8465 | .82112 | .82858 | |
| 7/8-28 or 0.875-28 | UN | 2A | .8506 | .8351 | .8468 | .8391 | .87380 | .86730 | .8750 | .8518 | .8723 | .8568 | .83600 | .84500 | 2B |
| | | | .8503 | .8346 | .8471 | .8396 | .87368 | .86742 | .8755 | .8521 | .8718 | .8565 | .83612 | .84488 | |
| | | 3A | .8518 | .8363 | .8489 | .8412 | .87500 | .86850 | .8750 | .8518 | .8710 | .8555 | .83600 | .84260 | 3B |
| | | | .8515 | .8358 | .8492 | .8417 | .87488 | .86862 | .8755 | .8521 | .8705 | .8552 | .83612 | .84248 | |
| 7/8-32 or 0.875-32 | UN | 2A | .8536 | .8401 | .8500 | .8432 | .87390 | .86790 | .8750 | .8547 | .8729 | .8596 | .84100 | .84900 | 2B |
| | | | .8533 | .8396 | .8503 | .8437 | .87378 | .86802 | .8755 | .8550 | .8724 | .8591 | .84112 | .84888 | |
| | | 3A | .8547 | .8412 | .8520 | .8452 | .87500 | .86900 | .8750 | .8547 | .8718 | .8583 | .84100 | .84690 | 3B |
| | | | .8544 | .8407 | .8523 | .8457 | .87488 | .86912 | .8755 | .8550 | .8713 | .8580 | .84112 | .84678 | |
| 15/16-12 or 0.9375-12 | UN | 2A | .8817 | .8456 | .8760 | .8580 | .93580 | .92440 | .9375 | .8834 | .9269 | .8908 | .84700 | .86500 | 2B |
| | | | .8814 | .8450 | .8763 | .8586 | .93568 | .92452 | .9381 | .8837 | .9263 | .8905 | .84712 | .86488 | |
| | | 3A | .8834 | .8473 | .8792 | .8612 | .93750 | .92610 | .9375 | .8834 | .9250 | .8889 | .84700 | .85750 | 3B |
| | | | .8831 | .8467 | .8795 | .8618 | .93738 | .92622 | .9381 | .8837 | .9244 | .8886 | .84712 | .85738 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 15/16-16 or 0.9375-16 | UN | 2A | 0.8954 | 0.8683 | 0.8904 | 0.8769 | 0.93600 | 0.92660 | 0.9375 | 0.8969 | 0.9305 | 0.9034 | 0.87000 | 0.88400 | 2B |
| | | | .8951 | .8677 | .8907 | .8775 | .93588 | .92672 | .9381 | .8972 | .9299 | .9031 | .87012 | .88388 | |
| | | 3A | .8969 | .8698 | .8932 | .8797 | .93750 | .92810 | .9375 | .8969 | .9289 | .9018 | .87000 | .87830 | 3B |
| | | | .8966 | .8692 | .8935 | .8803 | .93738 | .92822 | .9381 | .8972 | .9283 | .9015 | .87012 | .87818 | |
| 15/16-20 or 0.9375-20 | UNEF | 2A | .9036 | .8819 | .8991 | .8883 | .93610 | .92800 | .9375 | .9050 | .9326 | .9109 | .88300 | .89500 | 2B |
| | | | .9033 | .8814 | .8994 | .8888 | .93598 | .92812 | .9380 | .9053 | .9321 | .9106 | .88312 | .89488 | |
| | | 3A | .9050 | .8833 | .9016 | .8908 | .93750 | .92940 | .9375 | .9050 | .9311 | .9094 | .88300 | 89120 | 3B |
| | | | .9047 | .8828 | .9019 | .8913 | .93738 | .92952 | .9380 | .9053 | .9306 | .9091 | .88312 | 89108 | |
| 15/16-28 or 0.9375-28 | UN | 2A | .9131 | .8976 | .9091 | .9014 | .93630 | .92980 | .9375 | .9143 | .9350 | .9195 | .89900 | .90700 | 2B |
| | | | .9128 | .8971 | .9094 | .9019 | .93618 | .92992 | .9380 | .9146 | .9345 | .9192 | .89912 | .90688 | |
| | | 3A | .9143 | .8988 | .9113 | .9036 | .93750 | .93100 | .9375 | .9143 | .9337 | .9182 | .89900 | .90510 | 3B |
| | | | .9140 | .8983 | .9116 | .9041 | .93738 | .93112 | .9380 | .9146 | .9332 | .9179 | .89912 | .90498 | |
| 15/16-32 or 0.9375-32 | UN | 2A | .9161 | .9026 | .9123 | .9055 | .93640 | .93040 | .9375 | .9172 | .9356 | .9221 | .90400 | .91100 | 2B |
| | | | .9158 | .9021 | .9126 | .9060 | .93628 | .93052 | .9380 | .9175 | .9351 | .9218 | .90412 | .91088 | |
| | | 3A | .9172 | .9037 | .9144 | .9076 | .93750 | .93150 | .9375 | .9172 | .9344 | .9209 | .90400 | .90940 | 3B |
| | | | .9169 | .9032 | .9147 | .9081 | .93738 | .93162 | .9380 | .9175 | .9339 | .9206 | .90412 | .90928 | |
| 1-8 or 1.000-8 | UNC | 1A | .9168 | .8627 | .9067 | .8796 | .99800 | .97550 | 1.0000 | .9188 | .9861 | .9320 | .86500 | .89000 | 1B |
| | | | .9164 | .8620 | .9071 | .8803 | .99788 | .97562 | 1.0007 | .9192 | .9854 | .9316 | .86512 | .88988 | |
| | | 2A | .9168 | .8627 | .9100 | .8829 | .99800 | .98300 | 1.0000 | .9188 | .9817 | .9276 | .86500 | .89000 | 2B |
| | | | .9164 | .8620 | .9104 | .8836 | .99788 | .98312 | 1.0007 | .9192 | .9810 | .9272 | .86512 | .88988 | |
| | | 3A | .9188 | .8647 | .9137 | .8866 | 1.00000 | .98500 | 1.0000 | .9188 | .9795 | .9254 | .86500 | .87970 | 3B |
| | | | .9184 | .8640 | .9141 | .8873 | .99988 | .98512 | 1.0007 | .9192 | .9788 | .9250 | .86512 | .87958 | |
| 1-12 or 1.000-12 | UNF | 1A | .9441 | .9080 | .9353 | .9173 | .99820 | .98100 | 1.0000 | .9459 | .9934 | .9573 | .91000 | .92800 | 1B |
| | | | .9438 | .9074 | .9356 | .9179 | .99808 | .98112 | 1.0006 | .9462 | .9928 | .9570 | .91012 | .92788 | |
| | | 2A | .9441 | .9080 | .9382 | .9202 | .99820 | .98680 | 1.0000 | .9459 | .9896 | .9535 | .91000 | .92800 | 2B |
| | | | .9438 | .9074 | .9385 | .9208 | .99808 | .98692 | 1.0006 | .9462 | .9890 | .9532 | .91012 | .92788 | |
| | | 3A | .9459 | .9098 | .9415 | .9235 | 1.00000 | .98860 | 1.0000 | .9459 | .9877 | .9516 | .91000 | .91980 | 3B |
| | | | .9456 | .9092 | .9418 | .9241 | .99988 | .98872 | 1.0006 | .9462 | .9871 | .9513 | .91012 | .91968 | |
| 1-16 or 1.000-16 | UN | 2A | .9579 | .9308 | .9529 | .9394 | .99850 | .98910 | 1.0000 | .9594 | .9930 | .9659 | .93200 | .94600 | 2B |
| | | | .9576 | .9302 | .9532 | .9400 | .99838 | .98922 | 1.0006 | .9597 | .9924 | .9656 | .93212 | .94588 | |
| | | 3A | .9594 | .9323 | .9557 | .9422 | 1.00000 | .99060 | 1.0000 | .9594 | .9914 | .9643 | .93200 | .94080 | 3B |
| | | | .9591 | .9317 | .9560 | .9428 | .99988 | .99072 | 1.0006 | .9597 | .9908 | .9640 | .93212 | .94068 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1-20 or 1.000-20 | UNEF | 2A | 0.9661 | 0.9444 | 0.9616 | 0.9508 | 0.99860 | 0.99050 | 1.0000 | 0.9675 | 0.9951 | 0.9734 | 0.94600 | 0.95700 | 2B |
| | | | .9658 | .9439 | .9619 | .9513 | .99848 | .99062 | 1.0005 | .9678 | .9946 | .9731 | .94612 | .95688 | |
| | | 3A | .9675 | .9458 | .9641 | .9533 | 1.00000 | .99190 | 1.0000 | .9675 | .9936 | .9719 | .94600 | .95370 | 3B |
| | | | .9672 | .9453 | .9644 | .9538 | .99988 | .99202 | 1.0005 | .9678 | .9931 | .9716 | .94612 | .95358 | |
| 1-28 or 1.000-28 | UN | 2A | .9756 | .9601 | .9716 | .9639 | .99880 | .99230 | 1.0000 | .9768 | .9975 | .9820 | .96100 | .97000 | 2B |
| | | | .9753 | .9596 | .9719 | .9644 | .99868 | .99242 | 1.0005 | .9771 | .9970 | .9817 | .96112 | .96988 | |
| | | 3A | .9768 | .9613 | .9738 | .9661 | 1.00000 | .99350 | 1.0000 | .9768 | .9962 | .9807 | .96100 | .96760 | 3B |
| | | | .9765 | .9608 | .9741 | .9666 | .99988 | .99362 | 1.0005 | .9771 | .9957 | .9804 | .96112 | .96748 | |
| 1-32 or 1.000-32 | UN | 2A | .9786 | .9651 | .9748 | .9680 | .99890 | .99290 | 1.0000 | .9797 | .9981 | .9846 | .96600 | .97400 | 2B |
| | | | .9783 | .9646 | .9751 | .9685 | .99878 | .99302 | 1.0005 | .9800 | .9976 | .9843 | .96612 | .97388 | |
| | | 3A | .9797 | .9662 | .9769 | .9701 | 1.00000 | .99400 | 1.0000 | .9797 | .9969 | .9834 | .96600 | .97190 | 3B |
| | | | .9794 | .9657 | .9772 | .9706 | .99988 | .99412 | 1.0005 | .9800 | .9964 | .9831 | .96612 | .97178 | |
| 1 1/16-8 or 1.0625-8 | UN | 2A | .9793 | .9252 | .9725 | .9454 | 1.06050 | 1.04550 | 1.0625 | .9813 | 1.0443 | .9902 | .92700 | .95200 | 2B |
| | | | .9789 | .9245 | .9729 | .9461 | 1.06038 | 1.04562 | 1.0632 | .9817 | 1.0436 | .9898 | .92712 | .95188 | |
| | | 3A | .9813 | .9272 | .9762 | .9491 | 1.06250 | 1.04750 | 1.0625 | .9813 | 1.0421 | .9880 | .92700 | .94220 | 3B |
| | | | .9809 | .9265 | .9766 | .9498 | 1.06238 | 1.04762 | 1.0632 | .9817 | 1.0414 | .9876 | .92712 | .94208 | |
| 1 1/16-12 or 1.0625-12 | UN | 2A | 1.0067 | .9706 | 1.0010 | .9830 | 1.06080 | 1.04940 | 1.0625 | 1.0084 | 1.0519 | 1.0158 | .97200 | .99000 | 2B |
| | | | 1.0064 | .9700 | 1.0013 | .9836 | 1.06068 | 1.04952 | 1.0631 | 1.0087 | 1.0513 | 1.0155 | .97212 | .98988 | |
| | | 3A | 1.0084 | .9723 | 1.0042 | .9862 | 1.06250 | 1.05110 | 1.0625 | 1.0084 | 1.0500 | 1.0139 | .97200 | .98230 | 3B |
| | | | 1.0081 | .9717 | 1.0045 | .9868 | 1.06238 | 1.05122 | 1.0631 | 1.0087 | 1.0494 | 1.0136 | .97212 | .98218 | |
| 1 1/16-16 or 1.0625-16 | UN | 2A | 1.0204 | .9933 | 1.0154 | 1.0019 | 1.06100 | 1.05160 | 1.0625 | 1.0219 | 1.0555 | 1.0284 | .99500 | 1.00900 | 2B |
| | | | 1.0201 | .9927 | 1.0157 | 1.0025 | 1.06088 | 1.05172 | 1.0631 | 1.0222 | 1.0549 | 1.0281 | .99512 | 1.00888 | |
| | | 3A | 1.0219 | .9948 | 1.0182 | 1.0047 | 1.06250 | 1.05310 | 1.0625 | 1.0219 | 1.0539 | 1.0268 | .99500 | 1.00330 | 3B |
| | | | 1.0216 | .9942 | 1.0185 | 1.0053 | 1.06238 | 1.05322 | 1.0631 | 1.0222 | 1.0533 | 1.0265 | .99512 | 1.00318 | |
| 1 1/16-18 or 1.0625-18 | UNEF | 2A | 1.0250 | 1.0009 | 1.0203 | 1.0083 | 1.06110 | 1.05240 | 1.0625 | 1.0264 | 1.0567 | 1.0326 | 1.00200 | 1.01500 | 2B |
| | | | 1.0247 | 1.0004 | 1.0206 | 1.0088 | 1.06098 | 1.05252 | 1.0630 | 1.0267 | 1.0562 | 1.0323 | 1.00212 | 1.01488 | |
| | | 3A | 1.0264 | 1.0023 | 1.0228 | 1.0108 | 1.06250 | 1.05380 | 1.0625 | 1.0264 | 1.0551 | 1.0310 | 1.00200 | 1.01050 | 3B |
| | | | 1.0261 | 1.0018 | 1.0231 | 1.0113 | 1.06238 | 1.05392 | 1.0630 | 1.0267 | 1.0546 | 1.0307 | 1.00212 | 1.01038 | |
| 1 1/16-20 or 1.0625-20 | UN | 2A | 1.0286 | 1.0069 | 1.0241 | 1.0133 | 1.06110 | 1.05300 | 1.0625 | 1.0300 | 1.0576 | 1.0359 | 1.00800 | 1.02000 | 2B |
| | | | 1.0283 | 1.0064 | 1.0244 | 1.0138 | 1.06098 | 1.05312 | 1.0630 | 1.0303 | 1.0571 | 1.0356 | 1.00812 | 1.01988 | |
| | | 3A | 1.0300 | 1.0083 | 1.0266 | 1.0158 | 1.06250 | 1.05440 | 1.0625 | 1.0300 | 1.0561 | 1.0344 | 1.00800 | 1.01620 | 3B |
| | | | 1.0297 | 1.0078 | 1.0269 | 1.0163 | 1.06238 | 1.05452 | 1.0630 | 1.0303 | 1.0556 | 1.0341 | 1.00812 | 1.01608 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1 1/16-28 or 1.0625-28 | UN | 2A | 1.0381 | 1.0226 | 1.0341 | 1.0264 | 1.06130 | 1.05480 | 1.0625 | 1.0393 | 1.0600 | 1.0445 | 1.02400 | 1.03200 | 2B |
| | | | 1.0378 | 1.0221 | 1.0344 | 1.0269 | 1.06118 | 1.05492 | 1.0630 | 1.0396 | 1.0595 | 1.0442 | 1.02412 | 1.03188 | |
| | | 3A | 1.0393 | 1.0238 | 1.0363 | 1.0286 | 1.06250 | 1.05600 | 1.0625 | 1.0393 | 1.0587 | 1.0432 | 1.02400 | 1.03010 | 3B |
| | | | 1.0390 | 1.0233 | 1.0366 | 1.0291 | 1.06238 | 1.05612 | 1.0630 | 1.0396 | 1.0582 | 1.0429 | 1.02412 | 1.02998 | |
| 1 1/8-7 or 1.125-7 | UNC | 1A | 1.0300 | .9681 | 1.0191 | .9882 | 1.12280 | 1.09820 | 1.1250 | 1.0322 | 1.1082 | 1.0463 | .97000 | .99800 | 1B |
| | | | 1.0296 | .9674 | 1.0195 | .9889 | 1.12268 | 1.09832 | 1.1257 | 1.0326 | 1.1075 | 1.0459 | .97012 | .99788 | |
| | | 2A | 1.0300 | .9681 | 1.0228 | .9919 | 1.12280 | 1.10640 | 1.1250 | 1.0322 | 1.1035 | 1.0416 | .97000 | .99800 | 2B |
| | | | 1.0296 | .9674 | 1.0232 | .9926 | 1.12268 | 1.10652 | 1.1257 | 1.0326 | 1.1028 | 1.0412 | .97012 | .99788 | |
| | | 3A | 1.0322 | .9703 | 1.0268 | .9959 | 1.12500 | 1.10860 | 1.1250 | 1.0322 | 1.1012 | 1.0393 | .97000 | .98750 | 3B |
| | | | 1.0318 | .9696 | 1.0272 | .9966 | 1.12488 | 1.10872 | 1.1257 | 1.0326 | 1.1005 | 1.0389 | .97012 | .98738 | |
| 1 1/8-8 or 1.125-8 | UN | 2A | 1.0417 | .9876 | 1.0348 | 1.0077 | 1.12290 | 1.10790 | 1.1250 | 1.0438 | 1.1069 | 1.0528 | .99000 | 1.01500 | 2B |
| | | | 1.0413 | .9869 | 1.0352 | 1.0084 | 1.12278 | 1.10802 | 1.1257 | 1.0442 | 1.1062 | 1.0524 | .99012 | 1.01488 | |
| | | 3A | 1.0438 | .9897 | 1.0386 | 1.0115 | 1.12500 | 1.11000 | 1.1250 | 1.0438 | 1.1046 | 1.0505 | .99000 | 1.00470 | 3B |
| | | | 1.0434 | .9890 | 1.0390 | 1.0122 | 1.12488 | 1.11012 | 1.1257 | 1.0442 | 1.1039 | 1.0501 | .99012 | 1.00458 | |
| 1 1/8-12 or 1.125-12 | UNF | 1A | 1.0691 | 1.0330 | 1.0601 | 1.0421 | 1.12320 | 1.10600 | 1.1250 | 1.0709 | 1.1187 | 1.0826 | 1.03500 | 1.05300 | 1B |
| | | | 1.0688 | 1.0324 | 1.0604 | 1.0427 | 1.12308 | 1.10612 | 1.1256 | 1.0712 | 1.1181 | 1.0823 | 1.03512 | 1.05288 | |
| | | 2A | 1.0691 | 1.0330 | 1.0631 | 1.0451 | 1.12320 | 1.11180 | 1.1250 | 1.0709 | 1.1148 | 1.0787 | 1.03500 | 1.05300 | 2B |
| | | | 1.0688 | 1.0324 | 1.0634 | 1.0457 | 1.12308 | 1.11192 | 1.1256 | 1.0712 | 1.1142 | 1.0784 | 1.03512 | 1.05288 | |
| | | 3A | 1.0709 | 1.0348 | 1.0664 | 1.0484 | 1.12500 | 1.11360 | 1.1250 | 1.0709 | 1.1129 | 1.0768 | 1.03500 | 1.04480 | 3B |
| | | | 1.0706 | 1.0342 | 1.0667 | 1.0490 | 1.12488 | 1.11372 | 1.1256 | 1.0712 | 1.1123 | 1.0765 | 1.03512 | 1.04468 | |
| 1 1/8-16 or 1.125-16 | UN | 2A | 1.0829 | 1.0558 | 1.0779 | 1.0644 | 1.12350 | 1.11410 | 1.1250 | 1.0844 | 1.1180 | 1.0909 | 1.05700 | 1.07100 | 2B |
| | | | 1.0826 | 1.0552 | 1.0782 | 1.0650 | 1.12338 | 1.11422 | 1.1256 | 1.0847 | 1.1174 | 1.0906 | 1.05712 | 1.07088 | |
| | | 3A | 1.0844 | 1.0573 | 1.0807 | 1.0672 | 1.12500 | 1.11560 | 1.1250 | 1.0844 | 1.1164 | 1.0893 | 1.05700 | 1.06580 | 3B |
| | | | 1.0841 | 1.0567 | 1.0810 | 1.0678 | 1.12488 | 1.11572 | 1.1256 | 1.0847 | 1.1158 | 1.0890 | 1.05712 | 1.06568 | |
| 1 1/8-18 or 1.125-18 | UNEF | 2A | 1.0875 | 1.0634 | 1.0828 | 1.0708 | 1.12360 | 1.11490 | 1.1250 | 1.0889 | 1.1192 | 1.0951 | 1.06500 | 1.07800 | 2B |
| | | | 1.0872 | 1.0629 | 1.0831 | 1.0713 | 1.12348 | 1.11502 | 1.1255 | 1.0892 | 1.1187 | 1.0948 | 1.06512 | 1.07788 | |
| | | 3A | 1.0889 | 1.0648 | 1.0853 | 1.0733 | 1.12500 | 1.11630 | 1.1250 | 1.0889 | 1.1176 | 1.0935 | 1.06500 | 1.07300 | 3B |
| | | | 1.0886 | 1.0643 | 1.0856 | 1.0738 | 1.12488 | 1.11642 | 1.1255 | 1.0892 | 1.1171 | 1.0932 | 1.06512 | 1.07288 | |
| 1 1/8-20 or 1.125-20 | UN | 2A | 1.0911 | 1.0694 | 1.0866 | 1.0758 | 1.12360 | 1.11550 | 1.1250 | 1.0925 | 1.1201 | 1.0984 | 1.07100 | 1.08200 | 2B |
| | | | 1.0908 | 1.0689 | 1.0869 | 1.0763 | 1.12348 | 1.11562 | 1.1255 | 1.0928 | 1.1196 | 1.0981 | 1.07112 | 1.08188 | |
| | | 3A | 1.0925 | 1.0708 | 1.0891 | 1.0783 | 1.12500 | 1.11690 | 1.1250 | 1.0925 | 1.1186 | 1.0969 | 1.07100 | 1.07870 | 3B |
| | | | 1.0922 | 1.0703 | 1.0894 | 1.0788 | 1.12488 | 1.11702 | 1.1255 | 1.0928 | 1.1181 | 1.0966 | 1.07112 | 1.07858 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1⅛-28 or 1.125-28 | UN | 2A | 1.1006 | 1.0851 | 1.0966 | 1.0889 | 1.12380 | 1.11730 | 1.1250 | 1.1018 | 1.1225 | 1.1070 | 1.08600 | 1.09500 | 2B |
| | | | 1.1003 | 1.0846 | 1.0969 | 1.0894 | 1.12368 | 1.11742 | 1.1255 | 1.1021 | 1.1220 | 1.1067 | 1.08612 | 1.09488 | |
| | | 3A | 1.1018 | 1.0863 | 1.0988 | 1.0911 | 1.12500 | 1.11850 | 1.1250 | 1.1018 | 1.1212 | 1.1057 | 1.08600 | 1.09260 | 3B |
| | | | 1.1015 | 1.0858 | 1.0991 | 1.0916 | 1.12488 | 1.11862 | 1.1255 | 1.1021 | 1.1217 | 1.1054 | 1.08612 | 1.09248 | |
| 1³⁄₁₆-8 or 1.1875-8 | UN | 2A | 1.1042 | 1.0501 | 1.0972 | 1.0701 | 1.18540 | 1.17040 | 1.1875 | 1.1063 | 1.1695 | 1.1154 | 1.05200 | 1.07700 | 2B |
| | | | 1.1038 | 1.0494 | 1.0976 | 1.0708 | 1.18528 | 1.17052 | 1.1882 | 1.1067 | 1.1688 | 1.1150 | 1.05212 | 1.07688 | |
| | | 3A | 1.1063 | 1.0522 | 1.1011 | 1.0740 | 1.18750 | 1.17250 | 1.1875 | 1.1063 | 1.1672 | 1.1131 | 1.05200 | 1.06720 | 3B |
| | | | 1.1059 | 1.0515 | 1.1015 | 1.0747 | 1.18738 | 1.17262 | 1.1882 | 1.1067 | 1.1665 | 1.1127 | 1.05212 | 1.06708 | |
| 1³⁄₁₆-12 or 1.1875-12 | UN | 2A | 1.1317 | 1.0956 | 1.1259 | 1.1079 | 1.18580 | 1.17440 | 1.1875 | 1.1334 | 1.1770 | 1.1409 | 1.09700 | 1.11500 | 2B |
| | | | 1.1314 | 1.0950 | 1.1262 | 1.1085 | 1.18568 | 1.17452 | 1.1881 | 1.1337 | 1.1764 | 1.1406 | 1.09712 | 1.11488 | |
| | | 3A | 1.1334 | 1.0973 | 1.1291 | 1.1111 | 1.18750 | 1.17610 | 1.1875 | 1.1334 | 1.1751 | 1.1390 | 1.09700 | 1.10730 | 3B |
| | | | 1.1331 | 1.0967 | 1.1294 | 1.1117 | 1.18738 | 1.17622 | 1.1881 | 1.1337 | 1.1745 | 1.1387 | 1.09712 | 1.10718 | |
| 1³⁄₁₆-16 or 1.1875-16 | UN | 2A | 1.1454 | 1.1183 | 1.1403 | 1.1268 | 1.18600 | 1.17660 | 1.1875 | 1.1469 | 1.1806 | 1.1535 | 1.12000 | 1.13400 | 2B |
| | | | 1.1451 | 1.1177 | 1.1406 | 1.1274 | 1.18588 | 1.17672 | 1.1881 | 1.1472 | 1.1800 | 1.1532 | 1.12012 | 1.13388 | |
| | | 3A | 1.1469 | 1.1198 | 1.1431 | 1.1296 | 1.18750 | 1.17810 | 1.1875 | 1.1469 | 1.1790 | 1.1519 | 1.12000 | 1.12830 | 3B |
| | | | 1.1466 | 1.1192 | 1.1434 | 1.1302 | 1.18738 | 1.17822 | 1.1881 | 1.1472 | 1.1784 | 1.1516 | 1.12012 | 1.12818 | |
| 1³⁄₁₆-18 or 1.1875-18 | UNEF | 2A | 1.1499 | 1.1258 | 1.1450 | 1.1330 | 1.18600 | 1.17730 | 1.1875 | 1.1514 | 1.1818 | 1.1577 | 1.12700 | 1.14000 | 2B |
| | | | 1.1496 | 1.1253 | 1.1453 | 1.1335 | 1.18588 | 1.17742 | 1.1880 | 1.1517 | 1.1813 | 1.1574 | 1.12712 | 1.13988 | |
| | | 3A | 1.1514 | 1.1273 | 1.1478 | 1.1358 | 1.18750 | 1.17880 | 1.1875 | 1.1514 | 1.1802 | 1.1561 | 1.12700 | 1.13550 | 3B |
| | | | 1.1511 | 1.1268 | 1.1481 | 1.1363 | 1.18738 | 1.17892 | 1.1880 | 1.1517 | 1.1797 | 1.1558 | 1.12712 | 1.13538 | |
| 1³⁄₁₆-20 or 1.1875-20 | UN | 2A | 1.1536 | 1.1319 | 1.1489 | 1.1381 | 1.18610 | 1.17800 | 1.1875 | 1.1550 | 1.1828 | 1.1611 | 1.13300 | 1.14500 | 2B |
| | | | 1.1533 | 1.1314 | 1.1492 | 1.1386 | 1.18598 | 1.17812 | 1.1880 | 1.1553 | 1.1823 | 1.1608 | 1.13312 | 1.14488 | |
| | | 3A | 1.1550 | 1.1333 | 1.1515 | 1.1407 | 1.18750 | 1.17940 | 1.1875 | 1.1550 | 1.1812 | 1.1595 | 1.13300 | 1.14120 | 3B |
| | | | 1.1547 | 1.1328 | 1.1518 | 1.1412 | 1.18738 | 1.17952 | 1.1880 | 1.1553 | 1.1807 | 1.1592 | 1.13312 | 1.14108 | |
| 1³⁄₁₆-28 or 1.1875-28 | UN | 2A | 1.1631 | 1.1476 | 1.1590 | 1.1513 | 1.18630 | 1.17980 | 1.1875 | 1.1643 | 1.1851 | 1.1696 | 1.14900 | 1.15700 | 2B |
| | | | 1.1628 | 1.1471 | 1.1593 | 1.1518 | 1.18618 | 1.17992 | 1.1880 | 1.1646 | 1.1846 | 1.1693 | 1.14912 | 1.15688 | |
| | | 3A | 1.1643 | 1.1488 | 1.1612 | 1.1535 | 1.18750 | 1.18100 | 1.1875 | 1.1643 | 1.1838 | 1.1683 | 1.14900 | 1.15510 | 3B |
| | | | 1.1640 | 1.1483 | 1.1615 | 1.1540 | 1.18738 | 1.18112 | 1.1880 | 1.1646 | 1.1833 | 1.1680 | 1.14912 | 1.15498 | |
| 1¼-7 or 1.250-7 | UNC | 1A | 1.1550 | 1.0931 | 1.1439 | 1.1130 | 1.24780 | 1.22320 | 1.2500 | 1.1572 | 1.2335 | 1.1716 | 1.09500 | 1.12300 | 1B |
| | | | 1.1546 | 1.0924 | 1.1443 | 1.1137 | 1.24768 | 1.22332 | 1.2507 | 1.1576 | 1.2328 | 1.1712 | 1.09512 | 1.12288 | |
| | | 2A | 1.1550 | 1.0931 | 1.1476 | 1.1167 | 1.24780 | 1.23140 | 1.2500 | 1.1572 | 1.2287 | 1.1668 | 1.09500 | 1.12300 | 2B |
| | | | 1.1546 | 1.0924 | 1.1480 | 1.1174 | 1.24768 | 1.23152 | 1.2507 | 1.1576 | 1.2280 | 1.1664 | 1.09512 | 1.12288 | |
| | | 3A | 1.1572 | 1.0953 | 1.1517 | 1.1208 | 1.25000 | 1.23360 | 1.2500 | 1.1572 | 1.2263 | 1.1644 | 1.09500 | 1.11250 | 3B |
| | | | 1.1568 | 1.0946 | 1.1521 | 1.1215 | 1.24988 | 1.23372 | 1.2507 | 1.1576 | 1.2256 | 1.1640 | 1.09512 | 1.11238 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1¼-8 or 1.250-8 | UN | 2A | 1.1667 | 1.1126 | 1.1597 | 1.1326 | 1.24790 | 1.23290 | 1.2500 | 1.1688 | 1.2321 | 1.1780 | 1.11500 | 1.14000 | 2B |
| | | | 1.1663 | 1.1119 | 1.1601 | 1.1333 | 1.24778 | 1.23302 | 1.2507 | 1.1692 | 1.2314 | 1.1776 | 1.11512 | 1.13988 | |
| | | 3A | 1.1688 | 1.1147 | 1.1635 | 1.1364 | 1.25000 | 1.23500 | 1.2500 | 1.1688 | 1.2298 | 1.1757 | 1.11500 | 1.12970 | 3B |
| | | | 1.1684 | 1.1140 | 1.1639 | 1.1371 | 1.24988 | 1.23512 | 1.2507 | 1.1692 | 1.2291 | 1.1753 | 1.11512 | 1.12958 | |
| 1¼-12 or 1.250-12 | UNF | 1A | 1.1941 | 1.1580 | 1.1849 | 1.1669 | 1.24820 | 1.23100 | 1.2500 | 1.1959 | 1.2440 | 1.2079 | 1.16000 | 1.17800 | 1B |
| | | | 1.1938 | 1.1574 | 1.1852 | 1.1675 | 1.24808 | 1.23112 | 1.2506 | 1.1962 | 1.2434 | 1.2076 | 1.16012 | 1.17788 | |
| | | 2A | 1.1941 | 1.1580 | 1.1879 | 1.1699 | 1.24820 | 1.23680 | 1.2500 | 1.1959 | 1.2400 | 1.2039 | 1.16000 | 1.17800 | 2B |
| | | | 1.1938 | 1.1574 | 1.1882 | 1.1705 | 1.24808 | 1.23692 | 1.2506 | 1.1962 | 1.2394 | 1.2036 | 1.16012 | 1.17788 | |
| | | 3A | 1.1959 | 1.1598 | 1.1913 | 1.1733 | 1.25000 | 1.23860 | 1.2500 | 1.1959 | 1.2380 | 1.2019 | 1.16000 | 1.16980 | 3B |
| | | | 1.1956 | 1.1592 | 1.1916 | 1.1739 | 1.24988 | 1.23872 | 1.2506 | 1.1962 | 1.2374 | 1.2016 | 1.16012 | 1.16968 | |
| 1¼-16 or 1.250-16 | UN | 2A | 1.2079 | 1.1808 | 1.2028 | 1.1893 | 1.24850 | 1.23910 | 1.2500 | 1.2094 | 1.2431 | 1.2160 | 1.18200 | 1.19600 | 2B |
| | | | 1.2076 | 1.1802 | 1.2031 | 1.1899 | 1.24838 | 1.23922 | 1.2506 | 1.2097 | 1.2425 | 1.2157 | 1.18212 | 1.19588 | |
| | | 3A | 1.2094 | 1.1823 | 1.2056 | 1.1921 | 1.25000 | 1.24060 | 1.2500 | 1.2094 | 1.2415 | 1.2144 | 1.18200 | 1.19080 | 3B |
| | | | 1.2091 | 1.1817 | 1.2059 | 1.1927 | 1.24988 | 1.24072 | 1.2506 | 1.2097 | 1.2409 | 1.2141 | 1.18212 | 1.19068 | |
| 1¼-18 or 1.250-18 | UNEF | 2A | 1.2124 | 1.1883 | 1.2075 | 1.1955 | 1.24850 | 1.23980 | 1.2500 | 1.2139 | 1.2443 | 1.2202 | 1.19000 | 1.20300 | 2B |
| | | | 1.2121 | 1.1878 | 1.2078 | 1.1960 | 1.24838 | 1.23992 | 1.2505 | 1.2142 | 1.2438 | 1.2199 | 1.19012 | 1.20288 | |
| | | 3A | 1.2139 | 1.1898 | 1.2103 | 1.1983 | 1.25000 | 1.24130 | 1.2500 | 1.2139 | 1.2427 | 1.2186 | 1.19000 | 1.19800 | 3B |
| | | | 1.2136 | 1.1893 | 1.2106 | 1.1988 | 1.24988 | 1.24142 | 1.2505 | 1.2142 | 1.2422 | 1.2183 | 1.19012 | 1.19788 | |
| 1¼-20 or 1.250-20 | UN | 2A | 1.2161 | 1.1944 | 1.2114 | 1.2006 | 1.24860 | 1.24050 | 1.2500 | 1.2175 | 1.2453 | 1.2236 | 1.19600 | 1.20700 | 2B |
| | | | 1.2158 | 1.1939 | 1.2117 | 1.2011 | 1.24848 | 1.24062 | 1.2505 | 1.2178 | 1.2448 | 1.2233 | 1.19612 | 1.20688 | |
| | | 3A | 1.2175 | 1.1958 | 1.2140 | 1.2032 | 1.25000 | 1.24190 | 1.2500 | 1.2175 | 1.2437 | 1.2220 | 1.19600 | 1.20370 | 3B |
| | | | 1.2172 | 1.1953 | 1.2143 | 1.2037 | 1.24988 | 1.24202 | 1.2505 | 1.2178 | 1.2432 | 1.2217 | 1.19612 | 1.20358 | |
| 1¼-28 or 1.250-28 | UN | 2A | 1.2256 | 1.2101 | 1.2215 | 1.2138 | 1.24880 | 1.24230 | 1.2500 | 1.2268 | 1.2476 | 1.2321 | 1.21100 | 1.22000 | 2B |
| | | | 1.2253 | 1.2096 | 1.2218 | 1.2143 | 1.24868 | 1.24242 | 1.2505 | 1.2271 | 1.2471 | 1.2318 | 1.21112 | 1.21988 | |
| | | 3A | 1.2268 | 1.2113 | 1.2237 | 1.2160 | 1.25000 | 1.24350 | 1.2500 | 1.2268 | 1.2463 | 1.2308 | 1.21100 | 1.21760 | 3B |
| | | | 1.2265 | 1.2108 | 1.2240 | 1.2165 | 1.24988 | 1.24362 | 1.2505 | 1.2271 | 1.2458 | 1.2305 | 1.21112 | 1.21748 | |
| 1 5/16-8 or 1.3125-8 | UN | 2A | 1.2292 | 1.1751 | 1.2221 | 1.1950 | 1.31040 | 1.29540 | 1.3125 | 1.2313 | 1.2946 | 1.2405 | 1.17700 | 1.20200 | 2B |
| | | | 1.2288 | 1.1744 | 1.2225 | 1.1957 | 1.31028 | 1.29552 | 1.3132 | 1.2317 | 1.2939 | 1.2401 | 1.17712 | 1.20188 | |
| | | 3A | 1.2313 | 1.1772 | 1.2260 | 1.1989 | 1.31250 | 1.29750 | 1.3125 | 1.2313 | 1.2923 | 1.2382 | 1.17700 | 1.19220 | 3B |
| | | | 1.2309 | 1.1765 | 1.2264 | 1.1996 | 1.31238 | 1.29762 | 1.3132 | 1.2317 | 1.2916 | 1.2378 | 1.17712 | 1.19208 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1 5/16-12 or 1.3125-12 | UN | 2A | 1.2567 | 1.2206 | 1.2509 | 1.2329 | 1.31080 | 1.29940 | 1.3125 | 1.2584 | 1.3020 | 1.2659 | 1.22200 | 1.24000 | 2B |
| | | | 1.2564 | 1.2200 | 1.2512 | 1.2335 | 1.31068 | 1.29952 | 1.3131 | 1.2587 | 1.3014 | 1.2656 | 1.22212 | 1.23988 | |
| | | 3A | 1.2584 | 1.2223 | 1.2541 | 1.2361 | 1.31250 | 1.30110 | 1.3125 | 1.2584 | 1.3001 | 1.2640 | 1.22200 | 1.23230 | 3B |
| | | | 1.2581 | 1.2217 | 1.2544 | 1.2367 | 1.31238 | 1.30122 | 1.3131 | 1.2587 | 1.2995 | 1.2637 | 1.22212 | 1.23218 | |
| 1 5/16-16 or 1.3125-16 | UN | 2A | 1.2704 | 1.2433 | 1.2653 | 1.2518 | 1.31100 | 1.30160 | 1.3125 | 1.2719 | 1.3056 | 1.2785 | 1.24500 | 1.25900 | 2B |
| | | | 1.2701 | 1.2427 | 1.2656 | 1.2524 | 1.31088 | 1.30172 | 1.3131 | 1.2722 | 1.3050 | 1.2782 | 1.24512 | 1.25888 | |
| | | 3A | 1.2719 | 1.2448 | 1.2681 | 1.2546 | 1.31250 | 1.30310 | 1.3125 | 1.2719 | 1.3040 | 1.2769 | 1.24500 | 1.25330 | 3B |
| | | | 1.2716 | 1.2442 | 1.2684 | 1.2552 | 1.31238 | 1.30322 | 1.3131 | 1.2722 | 1.3034 | 1.2766 | 1.24512 | 1.25318 | |
| 1 5/16-18 or 1.3125-18 | UNEF | 2A | 1.2749 | 1.2508 | 1.2700 | 1.2580 | 1.31100 | 1.30230 | 1.3125 | 1.2764 | 1.3068 | 1.2827 | 1.25200 | 1.26500 | 2B |
| | | | 1.2746 | 1.2503 | 1.2703 | 1.2585 | 1.31088 | 1.30242 | 1.3130 | 1.2767 | 1.3063 | 1.2824 | 1.25212 | 1.26488 | |
| | | 3A | 1.2764 | 1.2523 | 1.2728 | 1.2608 | 1.31250 | 1.30380 | 1.3125 | 1.2764 | 1.3052 | 1.2811 | 1.25200 | 1.26050 | 3B |
| | | | 1.2761 | 1.2518 | 1.2731 | 1.2613 | 1.31238 | 1.30392 | 1.3130 | 1.2767 | 1.3047 | 1.2808 | 1.25212 | 1.26038 | |
| 1 5/16-20 or 1.3125-20 | UN | 2A | 1.2786 | 1.2569 | 1.2739 | 1.2631 | 1.31110 | 1.30300 | 1.3125 | 1.2800 | 1.3078 | 1.2861 | 1.25800 | 1.27000 | 2B |
| | | | 1.2783 | 1.2564 | 1.2742 | 1.2636 | 1.31098 | 1.30312 | 1.3130 | 1.2803 | 1.3073 | 1.2858 | 1.25812 | 1.26988 | |
| | | 3A | 1.2800 | 1.2583 | 1.2765 | 1.2657 | 1.31250 | 1.30440 | 1.3125 | 1.2800 | 1.3062 | 1.2845 | 1.25800 | 1.26620 | 3B |
| | | | 1.2797 | 1.2578 | 1.2768 | 1.2662 | 1.31238 | 1.30452 | 1.3130 | 1.2803 | 1.3057 | 1.2842 | 1.25812 | 1.26608 | |
| 1 5/16-28 or 1.3125-28 | UN | 2A | 1.2881 | 1.2726 | 1.2840 | 1.2763 | 1.31130 | 1.30480 | 1.3125 | 1.2893 | 1.3101 | 1.2946 | 1.27400 | 1.28200 | 2B |
| | | | 1.2878 | 1.2721 | 1.2843 | 1.2768 | 1.31118 | 1.30492 | 1.3130 | 1.2896 | 1.3096 | 1.2943 | 1.27412 | 1.28188 | |
| | | 3A | 1.2893 | 1.2738 | 1.2862 | 1.2785 | 1.31250 | 1.30600 | 1.3125 | 1.2893 | 1.3088 | 1.2933 | 1.27400 | 1.28010 | 3B |
| | | | 1.2890 | 1.2733 | 1.2865 | 1.2790 | 1.31238 | 1.30612 | 1.3130 | 1.2896 | 1.3083 | 1.2930 | 1.27412 | 1.27998 | |
| 1 3/8-6 or 1.375-6 | UNC | 1A | 1.2643 | 1.1921 | 1.2523 | 1.2162 | 1.37260 | 1.34530 | 1.3750 | 1.2667 | 1.3544 | 1.2822 | 1.19500 | 1.22500 | 1B |
| | | | 1.2639 | 1.1913 | 1.2527 | 1.2170 | 1.37248 | 1.34542 | 1.3758 | 1.2671 | 1.3536 | 1.2818 | 1.19512 | 1.22488 | |
| | | 2A | 1.2643 | 1.1921 | 1.2563 | 1.2202 | 1.37260 | 1.35440 | 1.3750 | 1.2667 | 1.3493 | 1.2771 | 1.19500 | 1.22500 | 2B |
| | | | 1.2639 | 1.1913 | 1.2567 | 1.2210 | 1.37248 | 1.35452 | 1.3758 | 1.2671 | 1.3485 | 1.2767 | 1.19512 | 1.22488 | |
| | | 3A | 1.2667 | 1.1945 | 1.2607 | 1.2246 | 1.37500 | 1.35680 | 1.3750 | 1.2667 | 1.3467 | 1.2745 | 1.19500 | 1.21460 | 3B |
| | | | 1.2663 | 1.1937 | 1.2611 | 1.2254 | 1.37488 | 1.35692 | 1.3758 | 1.2671 | 1.3459 | 1.2741 | 1.19512 | 1.21448 | |
| 1 3/8-8 or 1.375-8 | UN | 2A | 1.2916 | 1.2375 | 1.2844 | 1.2573 | 1.37280 | 1.35780 | 1.3750 | 1.2938 | 1.3572 | 1.3031 | 1.24000 | 1.26500 | 2B |
| | | | 1.2912 | 1.2368 | 1.2848 | 1.2580 | 1.37268 | 1.35792 | 1.3757 | 1.2942 | 1.3565 | 1.3027 | 1.24012 | 1.26488 | |
| | | 3A | 1.2938 | 1.2397 | 1.2884 | 1.2613 | 1.37500 | 1.36000 | 1.3750 | 1.2938 | 1.3549 | 1.3008 | 1.24000 | 1.25470 | 3B |
| | | | 1.2934 | 1.2390 | 1.2888 | 1.2620 | 1.37488 | 1.36012 | 1.3757 | 1.2942 | 1.3542 | 1.3004 | 1.24012 | 1.25458 | |
| 1 3/8-12 or 1.375-12 | UNF | 1A | 1.3190 | 1.2829 | 1.3096 | 1.2916 | 1.37310 | 1.35590 | 1.3750 | 1.3209 | 1.3693 | 1.3332 | 1.28500 | 1.30300 | 1B |
| | | | 1.3187 | 1.2823 | 1.3099 | 1.2922 | 1.37298 | 1.35602 | 1.3756 | 1.3212 | 1.3687 | 1.3329 | 1.28512 | 1.30288 | |
| | | 2A | 1.3190 | 1.2829 | 1.3127 | 1.2947 | 1.37310 | 1.36170 | 1.3750 | 1.3209 | 1.3652 | 1.3291 | 1.28500 | 1.30300 | 2B |
| | | | 1.3187 | 1.2823 | 1.3130 | 1.2953 | 1.37298 | 1.36182 | 1.3756 | 1.3212 | 1.3646 | 1.3288 | 1.28512 | 1.30288 | |
| | | 3A | 1.3209 | 1.2848 | 1.3162 | 1.2982 | 1.37500 | 1.36360 | 1.3750 | 1.3209 | 1.3631 | 1.3270 | 1.28500 | 1.29480 | 3B |
| | | | 1.3206 | 1.2842 | 1.3165 | 1.2988 | 1.37488 | 1.36372 | 1.3756 | 1.3212 | 1.3625 | 1.3267 | 1.28512 | 1.29468 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1⅜-16 or 1.375-16 | UN | 2A | 1.3329 | 1.3058 | 1.3278 | 1.3143 | 1.37350 | 1.36410 | 1.3750 | 1.3344 | 1.3681 | 1.3410 | 1.30700 | 1.32100 | 2B |
| | | | 1.3326 | 1.3052 | 1.3281 | 1.3149 | 1.37338 | 1.36422 | 1.3756 | 1.3347 | 1.3675 | 1.3407 | 1.30712 | 1.32088 | |
| | | 3A | 1.3344 | 1.3073 | 1.3306 | 1.3171 | 1.37500 | 1.36560 | 1.3750 | 1.3344 | 1.3665 | 1.3394 | 1.30700 | 1.31580 | 3B |
| | | | 1.3341 | 1.3067 | 1.3309 | 1.3177 | 1.37488 | 1.36572 | 1.3756 | 1.3347 | 1.3659 | 1.3391 | 1.30712 | 1.31568 | |
| 1⅜-18 or 1.375-18 | UNEF | 2A | 1.3374 | 1.3133 | 1.3325 | 1.3205 | 1.37350 | 1.36480 | 1.3750 | 1.3389 | 1.3693 | 1.3452 | 1.31500 | 1.32800 | 2B |
| | | | 1.3371 | 1.3128 | 1.3328 | 1.3210 | 1.37338 | 1.36492 | 1.3755 | 1.3392 | 1.3688 | 1.3449 | 1.31512 | 1.32788 | |
| | | 3A | 1.3389 | 1.3148 | 1.3353 | 1.3233 | 1.37500 | 1.36630 | 1.3750 | 1.3389 | 1.3677 | 1.3436 | 1.31500 | 1.32300 | 3B |
| | | | 1.3386 | 1.3143 | 1.3356 | 1.3238 | 1.37488 | 1.36642 | 1.3755 | 1.3392 | 1.3672 | 1.3433 | 1.31512 | 1.32288 | |
| 1⅜-20 or 1.375-20 | UN | 2A | 1.3411 | 1.3194 | 1.3364 | 1.3256 | 1.37360 | 1.36550 | 1.3750 | 1.3425 | 1.3703 | 1.3486 | 1.32100 | 1.33200 | 2B |
| | | | 1.3408 | 1.3189 | 1.3367 | 1.3261 | 1.37348 | 1.36562 | 1.3755 | 1.3428 | 1.3698 | 1.3483 | 1.32112 | 1.33188 | |
| | | 3A | 1.3425 | 1.3208 | 1.3390 | 1.3282 | 1.37500 | 1.36690 | 1.3750 | 1.3425 | 1.3687 | 1.3470 | 1.32100 | 1.32870 | 3B |
| | | | 1.3422 | 1.3203 | 1.3393 | 1.3287 | 1.37488 | 1.36702 | 1.3755 | 1.3428 | 1.3682 | 1.3467 | 1.32112 | 1.32858 | |
| 1⅜-28 or 1.375-28 | UN | 2A | 1.3506 | 1.3351 | 1.3465 | 1.3388 | 1.37380 | 1.36730 | 1.3750 | 1.3518 | 1.3726 | 1.3571 | 1.33600 | 1.34500 | 2B |
| | | | 1.3503 | 1.3346 | 1.3468 | 1.3393 | 1.37368 | 1.36742 | 1.3755 | 1.3521 | 1.3721 | 1.3568 | 1.33612 | 1.34488 | |
| | | 3A | 1.3518 | 1.3363 | 1.3487 | 1.3410 | 1.37500 | 1.36850 | 1.3750 | 1.3518 | 1.3713 | 1.3558 | 1.33600 | 1.34260 | 3B |
| | | | 1.3515 | 1.3358 | 1.3490 | 1.3415 | 1.37488 | 1.36862 | 1.3755 | 1.3521 | 1.3708 | 1.3555 | 1.33612 | 1.34248 | |
| 1⁷⁄₁₆-6 or 1.4375-6 | UN | 2A | 1.3268 | 1.2546 | 1.3188 | 1.2827 | 1.43510 | 1.41690 | 1.4375 | 1.3292 | 1.4118 | 1.3396 | 1.25700 | 1.28800 | 2B |
| | | | 1.3264 | 1.2538 | 1.3192 | 1.2835 | 1.43498 | 1.41702 | 1.4383 | 1.3296 | 1.4110 | 1.3392 | 1.25712 | 1.28788 | |
| | | 3A | 1.3292 | 1.2570 | 1.3232 | 1.2871 | 1.43750 | 1.41930 | 1.4375 | 1.3292 | 1.4092 | 1.3370 | 1.25700 | 1.27710 | 3B |
| | | | 1.3288 | 1.2562 | 1.3236 | 1.2879 | 1.43738 | 1.41942 | 1.4383 | 1.3296 | 1.4084 | 1.3366 | 1.25712 | 1.27698 | |
| 1⁷⁄₁₆-8 or 1.4375-8 | UN | 2A | 1.3541 | 1.3000 | 1.3469 | 1.3198 | 1.43530 | 1.42030 | 1.4375 | 1.3563 | 1.4198 | 1.3657 | 1.30200 | 1.32700 | 2B |
| | | | 1.3537 | 1.2993 | 1.3473 | 1.3205 | 1.43518 | 1.42042 | 1.4382 | 1.3567 | 1.4191 | 1.3653 | 1.30212 | 1.32688 | |
| | | 3A | 1.3563 | 1.3022 | 1.3509 | 1.3238 | 1.43750 | 1.42250 | 1.4375 | 1.3563 | 1.4175 | 1.3634 | 1.30200 | 1.31720 | 3B |
| | | | 1.3559 | 1.3015 | 1.3513 | 1.3245 | 1.43738 | 1.42262 | 1.4382 | 1.3567 | 1.4168 | 1.3630 | 1.30212 | 1.31708 | |
| 1⁷⁄₁₆-12 or 1.4375-12 | UN | 2A | 1.3816 | 1.3455 | 1.3757 | 1.3577 | 1.43570 | 1.42430 | 1.4375 | 1.3834 | 1.4271 | 1.3910 | 1.34700 | 1.36500 | 2B |
| | | | 1.3813 | 1.3449 | 1.3760 | 1.3583 | 1.43558 | 1.42442 | 1.4381 | 1.3837 | 1.4265 | 1.3907 | 1.34712 | 1.36488 | |
| | | 3A | 1.3834 | 1.3473 | 1.3790 | 1.3610 | 1.43750 | 1.42610 | 1.4375 | 1.3834 | 1.4252 | 1.3891 | 1.34700 | 1.35730 | 3B |
| | | | 1.3831 | 1.3467 | 1.3793 | 1.3616 | 1.43738 | 1.42622 | 1.4381 | 1.3837 | 1.4246 | 1.3888 | 1.34712 | 1.35718 | |
| 1⁷⁄₁₆-16 or 1.4375-16 | UN | 2A | 1.3953 | 1.3682 | 1.3901 | 1.3766 | 1.43590 | 1.42650 | 1.4375 | 1.3969 | 1.4308 | 1.4037 | 1.37000 | 1.38400 | 2B |
| | | | 1.3950 | 1.3676 | 1.3904 | 1.3772 | 1.43578 | 1.42662 | 1.4381 | 1.3972 | 1.4302 | 1.4034 | 1.37012 | 1.38388 | |
| | | 3A | 1.3969 | 1.3698 | 1.3930 | 1.3795 | 1.43750 | 1.42810 | 1.4375 | 1.3969 | 1.4291 | 1.4020 | 1.37000 | 1.37830 | 3B |
| | | | 1.3966 | 1.3692 | 1.3933 | 1.3801 | 1.43738 | 1.42822 | 1.4381 | 1.3972 | 1.4285 | 1.4017 | 1.37012 | 1.37818 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1 7/16-18 or 1.4375-18 | UNEF | 2A | 1.3999 | 1.3758 | 1.3949 | 1.3829 | 1.43600 | 1.42730 | 1.4375 | 1.4014 | 1.4320 | 1.4079 | 1.37700 | 1.39000 | 2B |
| | | | 1.3996 | 1.3753 | 1.3952 | 1.3834 | 1.43588 | 1.42742 | 1.4380 | 1.4017 | 1.4315 | 1.4076 | 1.37712 | 1.38988 | |
| | | 3A | 1.4014 | 1.3773 | 1.3977 | 1.3857 | 1.43750 | 1.42880 | 1.4375 | 1.4014 | 1.4303 | 1.4062 | 1.37700 | 1.38550 | 3B |
| | | | 1.4011 | 1.3768 | 1.3980 | 1.3862 | 1.43738 | 1.42892 | 1.4380 | 1.4017 | 1.4298 | 1.4059 | 1.37712 | 1.38538 | |
| 1 7/16-20 or 1.4375-20 | UN | 2A | 1.4036 | 1.3819 | 1.3988 | 1.3880 | 1.43610 | 1.42800 | 1.4375 | 1.4050 | 1.4329 | 1.4112 | 1.38300 | 1.39500 | 2B |
| | | | 1.4033 | 1.3814 | 1.3991 | 1.3885 | 1.43598 | 1.42812 | 1.4380 | 1.4053 | 1.4324 | 1.4109 | 1.38312 | 1.39488 | |
| | | 3A | 1.4050 | 1.3833 | 1.4014 | 1.3906 | 1.43750 | 1.42940 | 1.4375 | 1.4050 | 1.4313 | 1.4096 | 1.38300 | 1.39120 | 3B |
| | | | 1.4047 | 1.3828 | 1.4017 | 1.3911 | 1.43738 | 1.42952 | 1.4380 | 1.4053 | 1.4308 | 1.4093 | 1.38312 | 1.39108 | |
| 1 7/16-28 or 1.4375-28 | UN | 2A | 1.4130 | 1.3975 | 1.4088 | 1.4011 | 1.43620 | 1.42970 | 1.4375 | 1.4143 | 1.4353 | 1.4198 | 1.39900 | 1.40700 | 2B |
| | | | 1.4127 | 1.3970 | 1.4091 | 1.4016 | 1.43608 | 1.42982 | 1.4380 | 1.4146 | 1.4348 | 1.4195 | 1.39912 | 1.40688 | |
| | | 3A | 1.4143 | 1.3988 | 1.4112 | 1.4035 | 1.43750 | 1.43100 | 1.4375 | 1.4143 | 1.4339 | 1.4184 | 1.39900 | 1.40510 | 3B |
| | | | 1.4140 | 1.3983 | 1.4115 | 1.4040 | 1.43738 | 1.43112 | 1.4380 | 1.4146 | 1.4334 | 1.4181 | 1.39912 | 1.40498 | |
| 1 1/2-6 or 1.500-6 | UNC | 1A | 1.3893 | 1.3171 | 1.3772 | 1.3411 | 1.49760 | 1.47030 | 1.5000 | 1.3917 | 1.4797 | 1.4075 | 1.32000 | 1.35000 | 1B |
| | | | 1.3889 | 1.3163 | 1.3776 | 1.3419 | 1.49748 | 1.47042 | 1.5008 | 1.3921 | 1.4789 | 1.4071 | 1.32012 | 1.34988 | |
| | | 2A | 1.3893 | 1.3171 | 1.3812 | 1.3451 | 1.49760 | 1.47940 | 1.5000 | 1.3917 | 1.4744 | 1.4022 | 1.32000 | 1.35000 | 2B |
| | | | 1.3889 | 1.3163 | 1.3816 | 1.3459 | 1.49748 | 1.47952 | 1.5008 | 1.3921 | 1.4736 | 1.4018 | 1.32012 | 1.34988 | |
| | | 3A | 1.3917 | 1.3195 | 1.3856 | 1.3495 | 1.50000 | 1.48180 | 1.5000 | 1.3917 | 1.4718 | 1.3996 | 1.32000 | 1.33960 | 3B |
| | | | 1.3913 | 1.3187 | 1.3860 | 1.3503 | 1.49988 | 1.48192 | 1.5008 | 1.3921 | 1.4710 | 1.3992 | 1.32012 | 1.33948 | |
| 1 1/2-8 or 1.500-8 | UN | 2A | 1.4166 | 1.3625 | 1.4093 | 1.3822 | 1.49780 | 1.48280 | 1.5000 | 1.4188 | 1.4824 | 1.4283 | 1.36500 | 1.39000 | 2B |
| | | | 1.4162 | 1.3618 | 1.4097 | 1.3829 | 1.49768 | 1.48292 | 1.5007 | 1.4192 | 1.4817 | 1.4279 | 1.36512 | 1.38988 | |
| | | 3A | 1.4188 | 1.3647 | 1.4133 | 1.3862 | 1.50000 | 1.48500 | 1.5000 | 1.4188 | 1.4800 | 1.4259 | 1.36500 | 1.37970 | 3B |
| | | | 1.4184 | 1.3640 | 1.4137 | 1.3869 | 1.49988 | 1.48512 | 1.5007 | 1.4192 | 1.4793 | 1.4255 | 1.36512 | 1.37958 | |
| 1 1/2-12 or 1.500-12 | UNF | 1A | 1.4440 | 1.4079 | 1.4344 | 1.4164 | 1.49810 | 1.48090 | 1.5000 | 1.4459 | 1.4945 | 1.4584 | 1.41000 | 1.42800 | 1B |
| | | | 1.4437 | 1.4073 | 1.4347 | 1.4170 | 1.49798 | 1.48102 | 1.5006 | 1.4462 | 1.4939 | 1.4581 | 1.41012 | 1.42788 | |
| | | 2A | 1.4440 | 1.4079 | 1.4376 | 1.4196 | 1.49810 | 1.48670 | 1.5000 | 1.4459 | 1.4903 | 1.4542 | 1.41000 | 1.42800 | 2B |
| | | | 1.4437 | 1.4073 | 1.4379 | 1.4202 | 1.49798 | 1.48682 | 1.5006 | 1.4462 | 1.4897 | 1.4539 | 1.41012 | 1.42788 | |
| | | 3A | 1.4459 | 1.4098 | 1.4411 | 1.4231 | 1.50000 | 1.48860 | 1.5000 | 1.4459 | 1.4883 | 1.4522 | 1.41000 | 1.41980 | 3B |
| | | | 1.4456 | 1.4092 | 1.4414 | 1.4237 | 1.49988 | 1.48872 | 1.5006 | 1.4462 | 1.4877 | 1.4519 | 1.41012 | 1.41968 | |
| 1 1/2-16 or 1.500-16 | UN | 2A | 1.4578 | 1.4307 | 1.4526 | 1.4391 | 1.49840 | 1.48900 | 1.5000 | 1.4594 | 1.4933 | 1.4662 | 1.43200 | 1.44600 | 2B |
| | | | 1.4575 | 1.4301 | 1.4529 | 1.4397 | 1.49828 | 1.48912 | 1.5006 | 1.4597 | 1.4927 | 1.4659 | 1.43212 | 1.44588 | |
| | | 3A | 1.4594 | 1.4323 | 1.4555 | 1.4420 | 1.50000 | 1.49060 | 1.5000 | 1.4594 | 1.4916 | 1.4645 | 1.43200 | 1.44080 | 3B |
| | | | 1.4591 | 1.4317 | 1.4558 | 1.4426 | 1.49988 | 1.49072 | 1.5006 | 1.4597 | 1.4910 | 1.4642 | 1.43212 | 1.44068 | |
| 1 1/2-18 or 1.500-18 | UNEF | 2A | 1.4624 | 1.4383 | 1.4574 | 1.4454 | 1.49850 | 1.48980 | 1.5000 | 1.4639 | 1.4945 | 1.4704 | 1.44000 | 1.45200 | 2B |
| | | | 1.4621 | 1.4378 | 1.4577 | 1.4459 | 1.49838 | 1.48992 | 1.5005 | 1.4642 | 1.4940 | 1.4701 | 1.44012 | 1.45188 | |
| | | 3A | 1.4639 | 1.4398 | 1.4602 | 1.4482 | 1.50000 | 1.49130 | 1.5000 | 1.4639 | 1.4928 | 1.4687 | 1.44000 | 1.44800 | 3B |
| | | | 1.4636 | 1.4393 | 1.4605 | 1.4487 | 1.49988 | 1.49142 | 1.5005 | 1.4642 | 1.4923 | 1.4684 | 1.44012 | 1.44788 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1½-20 or 1.500-20 | UN | 2A | 1.4661 | 1.4444 | 1.4613 | 1.4505 | 1.49860 | 1.49050 | 1.5000 | 1.4675 | 1.4954 | 1.4737 | 1.44600 | 1.45700 | 2B |
| | | | 1.4658 | 1.4439 | 1.4616 | 1.4510 | 1.49848 | 1.49062 | 1.5005 | 1.4678 | 1.4949 | 1.4734 | 1.44612 | 1.45688 | |
| | | 3A | 1.4675 | 1.4458 | 1.4639 | 1.4531 | 1.50000 | 1.49190 | 1.5000 | 1.4675 | 1.4938 | 1.4721 | 1.44600 | 1.45370 | 3B |
| | | | 1.4672 | 1.4453 | 1.4642 | 1.4536 | 1.49988 | 1.49202 | 1.5005 | 1.4678 | 1.4933 | 1.4718 | 1.44612 | 1.45358 | |
| 1½-28 or 1.500-28 | UN | 2A | 1.4755 | 1.4600 | 1.4713 | 1.4636 | 1.49870 | 1.49220 | 1.5000 | 1.4768 | 1.4978 | 1.4823 | 1.46100 | 1.47000 | 2B |
| | | | 1.4752 | 1.4595 | 1.4716 | 1.4641 | 1.49858 | 1.49232 | 1.5005 | 1.4771 | 1.4973 | 1.4820 | 1.46112 | 1.46988 | |
| | | 3A | 1.4768 | 1.4613 | 1.4737 | 1.4660 | 1.50000 | 1.49350 | 1.5000 | 1.4768 | 1.4964 | 1.4809 | 1.46100 | 1.46760 | 3B |
| | | | 1.4765 | 1.4608 | 1.4740 | 1.4665 | 1.49988 | 1.49362 | 1.5005 | 1.4771 | 1.4959 | 1.4806 | 1.46112 | 1.46748 | |
| 1 9/16-6 or 1.5625-6 | UN | 2A | 1.4518 | 1.3796 | 1.4436 | 1.4075 | 1.56010 | 1.54190 | 1.5625 | 1.4542 | 1.5370 | 1.4648 | 1.38200 | 1.41300 | 2B |
| | | | 1.4513 | 1.3788 | 1.4441 | 1.4083 | 1.55994 | 1.54206 | 1.5633 | 1.4547 | 1.5362 | 1.4643 | 1.38216 | 1.41284 | |
| | | 3A | 1.4542 | 1.3820 | 1.4481 | 1.4120 | 1.56250 | 1.54430 | 1.5625 | 1.4542 | 1.5344 | 1.4622 | 1.38200 | 1.40210 | 3B |
| | | | 1.4537 | 1.3812 | 1.4486 | 1.4128 | 1.56234 | 1.54446 | 1.5633 | 1.4547 | 1.5336 | 1.4617 | 1.38216 | 1.40194 | |
| 1 9/16-8 or 1.5625-8 | UN | 2A | 1.4791 | 1.4250 | 1.4717 | 1.4446 | 1.56030 | 1.54530 | 1.5625 | 1.4813 | 1.5450 | 1.4909 | 1.42700 | 1.45200 | 2B |
| | | | 1.4786 | 1.4243 | 1.4722 | 1.4453 | 1.56014 | 1.54546 | 1.5632 | 1.4818 | 1.5443 | 1.4904 | 1.42716 | 1.45184 | |
| | | 3A | 1.4813 | 1.4272 | 1.4758 | 1.4487 | 1.56250 | 1.54750 | 1.5625 | 1.4813 | 1.5426 | 1.4885 | 1.42700 | 1.44220 | 3B |
| | | | 1.4808 | 1.4265 | 1.4763 | 1.4494 | 1.56234 | 1.54766 | 1.5632 | 1.4818 | 1.5419 | 1.4880 | 1.42716 | 1.44204 | |
| 1 9/16-12 or 1.5625-12 | UN | 2A | 1.5066 | 1.4705 | 1.5007 | 1.4827 | 1.56070 | 1.54930 | 1.5625 | 1.5084 | 1.5521 | 1.5160 | 1.47200 | 1.49000 | 2B |
| | | | 1.5062 | 1.4699 | 1.5011 | 1.4833 | 1.56054 | 1.54946 | 1.5631 | 1.5088 | 1.5515 | 1.5156 | 1.47216 | 1.48984 | |
| | | 3A | 1.5084 | 1.4723 | 1.5040 | 1.4860 | 1.56250 | 1.55110 | 1.5625 | 1.5084 | 1.5502 | 1.5141 | 1.47200 | 1.48230 | 3B |
| | | | 1.5080 | 1.4717 | 1.5044 | 1.4866 | 1.56234 | 1.55126 | 1.5631 | 1.5088 | 1.5496 | 1.5137 | 1.47216 | 1.48214 | |
| 1 9/16-16 or 1.5625-16 | UN | 2A | 1.5203 | 1.4932 | 1.5151 | 1.5016 | 1.56090 | 1.55150 | 1.5625 | 1.5219 | 1.5558 | 1.5287 | 1.49500 | 1.50900 | 2B |
| | | | 1.5199 | 1.4926 | 1.5155 | 1.5022 | 1.56074 | 1.55166 | 1.5631 | 1.5223 | 1.5552 | 1.5283 | 1.49516 | 1.50884 | |
| | | 3A | 1.5219 | 1.4948 | 1.5180 | 1.5045 | 1.56250 | 1.55310 | 1.5625 | 1.5219 | 1.5541 | 1.5270 | 1.49500 | 1.50330 | 3B |
| | | | 1.5215 | 1.4942 | 1.5184 | 1.5051 | 1.56234 | 1.55326 | 1.5631 | 1.5223 | 1.5535 | 1.5266 | 1.49516 | 1.50314 | |
| 1 9/16-18 or 1.5625-18 | UNEF | 2A | 1.5249 | 1.5008 | 1.5199 | 1.5079 | 1.56100 | 1.55230 | 1.5625 | 1.5264 | 1.5570 | 1.5329 | 1.50200 | 1.51500 | 2B |
| | | | 1.5245 | 1.5003 | 1.5203 | 1.5084 | 1.56084 | 1.55246 | 1.5630 | 1.5268 | 1.5565 | 1.5325 | 1.50216 | 1.51484 | |
| | | 3A | 1.5264 | 1.5023 | 1.5227 | 1.5107 | 1.56250 | 1.55380 | 1.5625 | 1.5264 | 1.5553 | 1.5312 | 1.50200 | 1.51050 | 3B |
| | | | 1.5260 | 1.5018 | 1.5231 | 1.5112 | 1.56234 | 1.55396 | 1.5630 | 1.5268 | 1.5548 | 1.5308 | 1.50216 | 1.51034 | |
| 1 9/16-20 or 1.5625-20 | UN | 2A | 1.5286 | 1.5069 | 1.5238 | 1.5130 | 1.56110 | 1.55300 | 1.5625 | 1.5300 | 1.5579 | 1.5362 | 1.50800 | 1.52000 | 2B |
| | | | 1.5282 | 1.5064 | 1.5242 | 1.5135 | 1.56094 | 1.55316 | 1.5630 | 1.5304 | 1.5574 | 1.5358 | 1.50816 | 1.51984 | |
| | | 3A | 1.5300 | 1.5083 | 1.5264 | 1.5156 | 1.56250 | 1.55440 | 1.5625 | 1.5300 | 1.5563 | 1.5346 | 1.50800 | 1.51620 | 3B |
| | | | 1.5296 | 1.5078 | 1.5268 | 1.5161 | 1.56234 | 1.55456 | 1.5630 | 1.5304 | 1.5558 | 1.5342 | 1.50816 | 1.51604 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1⅝-6 or 1.625-6 | UN | 2A | 1.5142 | 1.4420 | 1.5060 | 1.4699 | 1.62250 | 1.60430 | 1.6250 | 1.5167 | 1.5996 | 1.5274 | 1.44500 | 1.47500 | 2B |
| | | | 1.5137 | 1.4412 | 1.5065 | 1.4707 | 1.62234 | 1.60446 | 1.6258 | 1.5172 | 1.5988 | 1.5269 | 1.44516 | 1.47484 | |
| | | 3A | 1.5167 | 1.4445 | 1.5105 | 1.4744 | 1.62500 | 1.60680 | 1.6250 | 1.5167 | 1.5969 | 1.5247 | 1.44500 | 1.46460 | 3B |
| | | | 1.5162 | 1.4437 | 1.5110 | 1.4752 | 1.62484 | 1.60696 | 1.6258 | 1.5172 | 1.5961 | 1.5242 | 1.44516 | 1.46444 | |
| 1⅝-8 or 1.625-8 | UN | 2A | 1.5416 | 1.4875 | 1.5342 | 1.5071 | 1.62280 | 1.60780 | 1.6250 | 1.5438 | 1.6076 | 1.5535 | 1.49000 | 1.51500 | 2B |
| | | | 1.5411 | 1.4868 | 1.5347 | 1.5078 | 1.62264 | 1.60796 | 1.6257 | 1.5443 | 1.6069 | 1.5530 | 1.49016 | 1.51484 | |
| | | 3A | 1.5438 | 1.4897 | 1.5382 | 1.5111 | 1.62500 | 1.61000 | 1.6250 | 1.5438 | 1.6051 | 1.5510 | 1.49000 | 1.50470 | 3B |
| | | | 1.5433 | 1.4890 | 1.5387 | 1.5118 | 1.62484 | 1.61016 | 1.6257 | 1.5443 | 1.6044 | 1.5505 | 1.49016 | 1.50454 | |
| 1⅝-12 or 1.625-12 | UN | 2A | 1.5691 | 1.5330 | 1.5632 | 1.5452 | 1.62320 | 1.61180 | 1.6250 | 1.5709 | 1.6146 | 1.5785 | 1.53500 | 1.55300 | 2B |
| | | | 1.5687 | 1.5324 | 1.5636 | 1.5458 | 1.62304 | 1.61196 | 1.6256 | 1.5713 | 1.6140 | 1.5781 | 1.53516 | 1.55284 | |
| | | 3A | 1.5709 | 1.5348 | 1.5665 | 1.5485 | 1.62500 | 1.61360 | 1.6250 | 1.5709 | 1.6127 | 1.5766 | 1.53500 | 1.54480 | 3B |
| | | | 1.5705 | 1.5342 | 1.5669 | 1.5491 | 1.62484 | 1.61376 | 1.6256 | 1.5713 | 1.6121 | 1.5762 | 1.53516 | 1.54464 | |
| 1⅝-16 or 1.625-16 | UN | 2A | 1.5828 | 1.5557 | 1.5776 | 1.5641 | 1.62340 | 1.61400 | 1.6250 | 1.5844 | 1.6183 | 1.5912 | 1.55700 | 1.57100 | 2B |
| | | | 1.5824 | 1.5551 | 1.5780 | 1.5647 | 1.62324 | 1.61416 | 1.6256 | 1.5848 | 1.6177 | 1.5908 | 1.55716 | 1.57084 | |
| | | 3A | 1.5844 | 1.5573 | 1.5805 | 1.5670 | 1.62500 | 1.61560 | 1.6250 | 1.5844 | 1.6166 | 1.5895 | 1.55700 | 1.56580 | 3B |
| | | | 1.5840 | 1.5567 | 1.5809 | 1.5676 | 1.62484 | 1.61576 | 1.6256 | 1.5848 | 1.6160 | 1.5891 | 1.55716 | 1.56564 | |
| 1⅝-18 or 1.625-18 | UNEF | 2A | 1.5874 | 1.5633 | 1.5824 | 1.5704 | 1.62350 | 1.61480 | 1.6250 | 1.5889 | 1.6195 | 1.5954 | 1.56500 | 1.57800 | 2B |
| | | | 1.5870 | 1.5628 | 1.5828 | 1.5709 | 1.62334 | 1.61496 | 1.6255 | 1.5893 | 1.6190 | 1.5950 | 1.56516 | 1.57784 | |
| | | 3A | 1.5889 | 1.5648 | 1.5852 | 1.5732 | 1.62500 | 1.61630 | 1.6250 | 1.5889 | 1.6178 | 1.5937 | 1.56500 | 1.57300 | 3B |
| | | | 1.5885 | 1.5643 | 1.5856 | 1.5737 | 1.62484 | 1.61646 | 1.6255 | 1.5893 | 1.6173 | 1.5933 | 1.56516 | 1.57284 | |
| 1⅝-20 or 1.625-20 | UN | 2A | 1.5911 | 1.5694 | 1.5863 | 1.5755 | 1.62360 | 1.61550 | 1.6250 | 1.5925 | 1.6204 | 1.5987 | 1.57100 | 1.58200 | 2B |
| | | | 1.5907 | 1.5689 | 1.5867 | 1.5760 | 1.62344 | 1.61566 | 1.6255 | 1.5929 | 1.6199 | 1.5983 | 1.57116 | 1.58184 | |
| | | 3A | 1.5925 | 1.5708 | 1.5889 | 1.5781 | 1.62500 | 1.61690 | 1.6250 | 1.5925 | 1.6188 | 1.5971 | 1.57100 | 1.57870 | 3B |
| | | | 1.5921 | 1.5703 | 1.5893 | 1.5786 | 1.62484 | 1.61706 | 1.6255 | 1.5929 | 1.6183 | 1.5967 | 1.57116 | 1.57854 | |
| 1 11/16-6 or 1.6875-6 | UN | 2A | 1.5767 | 1.5045 | 1.5684 | 1.5323 | 1.68500 | 1.66680 | 1.6875 | 1.5792 | 1.6622 | 1.5900 | 1.50700 | 1.53800 | 2B |
| | | | 1.5762 | 1.5037 | 1.5689 | 1.5331 | 1.68484 | 1.66696 | 1.6883 | 1.5797 | 1.6614 | 1.5895 | 1.50716 | 1.53784 | |
| | | 3A | 1.5792 | 1.5070 | 1.5730 | 1.5369 | 1.68750 | 1.66930 | 1.6875 | 1.5792 | 1.6595 | 1.5873 | 1.50700 | 1.52710 | 3B |
| | | | 1.5787 | 1.5062 | 1.5735 | 1.5377 | 1.68734 | 1.66946 | 1.6883 | 1.5797 | 1.6587 | 1.5868 | 1.50716 | 1.52694 | |
| 1 11/16-8 or 1.6875-8 | UN | 2A | 1.6041 | 1.5500 | 1.5966 | 1.5695 | 1.68530 | 1.67030 | 1.6875 | 1.6063 | 1.6701 | 1.6160 | 1.55200 | 1.57700 | 2B |
| | | | 1.6036 | 1.5493 | 1.5971 | 1.5702 | 1.68514 | 1.67046 | 1.6882 | 1.6068 | 1.6694 | 1.6155 | 1.55216 | 1.57684 | |
| | | 3A | 1.6063 | 1.5522 | 1.6007 | 1.5736 | 1.68750 | 1.67250 | 1.6875 | 1.6063 | 1.6677 | 1.6136 | 1.55200 | 1.56720 | 3B |
| | | | 1.6058 | 1.5515 | 1.6012 | 1.5743 | 1.68734 | 1.67266 | 1.6882 | 1.6068 | 1.6670 | 1.6131 | 1.55216 | 1.56704 | |
| 1 11/16-12 or 1.6875-12 | UN | 2A | 1.6316 | 1.5955 | 1.6256 | 1.6076 | 1.68570 | 1.67430 | 1.6875 | 1.6334 | 1.6773 | 1.6412 | 1.59700 | 1.61500 | 2B |
| | | | 1.6312 | 1.5949 | 1.6260 | 1.6082 | 1.68554 | 1.67446 | 1.6881 | 1.6338 | 1.6767 | 1.6408 | 1.59716 | 1.61484 | |
| | | 3A | 1.6334 | 1.5973 | 1.6289 | 1.6109 | 1.68750 | 1.67610 | 1.6875 | 1.6334 | 1.6753 | 1.6392 | 1.59700 | 1.60730 | 3B |
| | | | 1.6330 | 1.5967 | 1.6293 | 1.6115 | 1.68734 | 1.67626 | 1.6881 | 1.6338 | 1.6747 | 1.6388 | 1.59716 | 1.60714 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1 1/16-16 or 1.6875-16 | UN | 2A | 1.6453 | 1.6182 | 1.6400 | 1.6265 | 1.68590 | 1.67650 | 1.6875 | 1.6469 | 1.6809 | 1.6538 | 1.62000 | 1.63400 | 2B |
| | | | 1.6449 | 1.6176 | 1.6404 | 1.6271 | 1.68574 | 1.67666 | 1.6881 | 1.6473 | 1.6803 | 1.6534 | 1.62016 | 1.63384 | |
| | | 3A | 1.6469 | 1.6198 | 1.6429 | 1.6294 | 1.68750 | 1.67810 | 1.6875 | 1.6469 | 1.6792 | 1.6521 | 1.62000 | 1.62830 | 3B |
| | | | 1.6465 | 1.6192 | 1.6433 | 1.6300 | 1.68734 | 1.67826 | 1.6881 | 1.6473 | 1.6786 | 1.6517 | 1.62016 | 1.62814 | |
| 1 1/16-18 or 1.6875-18 | UNEF | 2A | 1.6499 | 1.6258 | 1.6448 | 1.6328 | 1.68600 | 1.67730 | 1.6875 | 1.6514 | 1.6821 | 1.6580 | 1.62700 | 1.64000 | 2B |
| | | | 1.6495 | 1.6253 | 1.6452 | 1.6333 | 1.68584 | 1.67746 | 1.6880 | 1.6518 | 1.6816 | 1.6576 | 1.62716 | 1.63984 | |
| | | 3A | 1.6514 | 1.6273 | 1.6476 | 1.6356 | 1.68750 | 1.67880 | 1.6875 | 1.6514 | 1.6804 | 1.6563 | 1.62700 | 1.63550 | 3B |
| | | | 1.6510 | 1.6268 | 1.6480 | 1.6361 | 1.68734 | 1.67896 | 1.6880 | 1.6518 | 1.6799 | 1.6559 | 1.62716 | 1.63534 | |
| 1 1/16-20 or 1.6875-20 | UN | 2A | 1.6535 | 1.6318 | 1.6487 | 1.6379 | 1.68600 | 1.67790 | 1.6875 | 1.6550 | 1.6830 | 1.6613 | 1.63300 | 1.64500 | 2B |
| | | | 1.6531 | 1.6313 | 1.6491 | 1.6384 | 1.68584 | 1.67806 | 1.6880 | 1.6554 | 1.6825 | 1.6609 | 1.63316 | 1.64484 | |
| | | 3A | 1.6550 | 1.6333 | 1.6514 | 1.6406 | 1.68750 | 1.67940 | 1.6875 | 1.6550 | 1.6814 | 1.6597 | 1.63300 | 1.64120 | 3B |
| | | | 1.6546 | 1.6328 | 1.6518 | 1.6411 | 1.68734 | 1.67956 | 1.6880 | 1.6554 | 1.6809 | 1.6593 | 1.63316 | 1.64104 | |
| 1 3/4-5 or 1.750-5 | UNC | 1A | 1.6174 | 1.5308 | 1.6040 | 1.5607 | 1.74730 | 1.71650 | 1.7500 | 1.6201 | 1.7241 | 1.6375 | 1.53400 | 1.56800 | 1B |
| | | | 1.6169 | 1.5300 | 1.6045 | 1.5615 | 1.74714 | 1.71666 | 1.7508 | 1.6206 | 1.7233 | 1.6370 | 1.53416 | 1.56784 | |
| | | 2A | 1.6174 | 1.5308 | 1.6085 | 1.5652 | 1.74730 | 1.72680 | 1.7500 | 1.6201 | 1.7183 | 1.6317 | 1.53400 | 1.56800 | 2B |
| | | | 1.6169 | 1.5300 | 1.6090 | 1.5660 | 1.74714 | 1.72696 | 1.7508 | 1.6206 | 1.7175 | 1.6312 | 1.53416 | 1.56784 | |
| | | 3A | 1.6201 | 1.5335 | 1.6134 | 1.5701 | 1.75000 | 1.72950 | 1.7500 | 1.6201 | 1.7154 | 1.6288 | 1.53400 | 1.55750 | 3B |
| | | | 1.6196 | 1.5327 | 1.6139 | 1.5709 | 1.74984 | 1.72966 | 1.7508 | 1.6206 | 1.7146 | 1.6283 | 1.53416 | 1.55734 | |
| 1 3/4-6 or 1.750-6 | UN | 2A | 1.6392 | 1.5670 | 1.6309 | 1.5948 | 1.74750 | 1.72930 | 1.7500 | 1.6417 | 1.7247 | 1.6525 | 1.57000 | 1.60000 | 2B |
| | | | 1.6387 | 1.5662 | 1.6314 | 1.5956 | 1.74734 | 1.72946 | 1.7508 | 1.6422 | 1.7239 | 1.6520 | 1.57016 | 1.59984 | |
| | | 3A | 1.6417 | 1.5695 | 1.6354 | 1.5993 | 1.75000 | 1.73180 | 1.7500 | 1.6417 | 1.7220 | 1.6498 | 1.57000 | 1.58960 | 3B |
| | | | 1.6412 | 1.5687 | 1.6359 | 1.6001 | 1.74984 | 1.73196 | 1.7508 | 1.6422 | 1.7212 | 1.6493 | 1.57016 | 1.58944 | |
| 1 3/4-8 or 1.750-8 | UN | 2A | 1.6665 | 1.6124 | 1.6590 | 1.6319 | 1.74770 | 1.73270 | 1.7500 | 1.6688 | 1.7327 | 1.6786 | 1.61500 | 1.64000 | 2B |
| | | | 1.6660 | 1.6117 | 1.6595 | 1.6326 | 1.74754 | 1.73286 | 1.7507 | 1.6693 | 1.7320 | 1.6781 | 1.61516 | 1.63984 | |
| | | 3A | 1.6688 | 1.6147 | 1.6631 | 1.6360 | 1.75000 | 1.73500 | 1.7500 | 1.6688 | 1.7303 | 1.6762 | 1.61500 | 1.62970 | 3B |
| | | | 1.6683 | 1.6140 | 1.6636 | 1.6367 | 1.74984 | 1.73516 | 1.7507 | 1.6693 | 1.7296 | 1.6757 | 1.61516 | 1.62954 | |
| 1 3/4-12 or 1.750-12 | UN | 2A | 1.6941 | 1.6580 | 1.6881 | 1.6701 | 1.74820 | 1.73680 | 1.7500 | 1.6959 | 1.7398 | 1.7037 | 1.66000 | 1.67800 | 2B |
| | | | 1.6937 | 1.6574 | 1.6885 | 1.6707 | 1.74804 | 1.73696 | 1.7506 | 1.6963 | 1.7392 | 1.7033 | 1.66016 | 1.67784 | |
| | | 3A | 1.6959 | 1.6598 | 1.6914 | 1.6734 | 1.75000 | 1.73860 | 1.7500 | 1.6959 | 1.7378 | 1.7017 | 1.66000 | 1.66980 | 3B |
| | | | 1.6955 | 1.6592 | 1.6918 | 1.6740 | 1.74984 | 1.73876 | 1.7506 | 1.6963 | 1.7372 | 1.7013 | 1.66016 | 1.66964 | |
| 1 3/4-16 or 1.750-16 | UN | 2A | 1.7078 | 1.6807 | 1.7025 | 1.6890 | 1.74840 | 1.73900 | 1.7500 | 1.7094 | 1.7434 | 1.7163 | 1.68200 | 1.69600 | 2B |
| | | | 1.7074 | 1.6801 | 1.7029 | 1.6896 | 1.74824 | 1.73916 | 1.7506 | 1.7098 | 1.7428 | 1.7159 | 1.68216 | 1.69584 | |
| | | 3A | 1.7094 | 1.6823 | 1.7054 | 1.6919 | 1.75000 | 1.74060 | 1.7500 | 1.7094 | 1.7417 | 1.7146 | 1.68200 | 1.69080 | 3B |
| | | | 1.7090 | 1.6817 | 1.7058 | 1.6925 | 1.74984 | 1.74076 | 1.7506 | 1.7098 | 1.7411 | 1.7142 | 1.68216 | 1.69064 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1¾-20 or 1.750-20 | UN | 2A | 1.7160 | 1.6943 | 1.7112 | 1.7004 | 1.74850 | 1.74040 | 1.7500 | 1.7175 | 1.7455 | 1.7238 | 1.69600 | 1.70700 | 2B |
| | | | 1.7156 | 1.6938 | 1.7116 | 1.7009 | 1.74834 | 1.74056 | 1.7505 | 1.7179 | 1.7450 | 1.7234 | 1.69616 | 1.70684 | |
| | | 3A | 1.7175 | 1.6958 | 1.7139 | 1.7031 | 1.75000 | 1.74190 | 1.7500 | 1.7175 | 1.7439 | 1.7222 | 1.69600 | 1.70370 | 3B |
| | | | 1.7171 | 1.6953 | 1.7143 | 1.7036 | 1.74984 | 1.74206 | 1.7505 | 1.7179 | 1.7434 | 1.7218 | 1.69616 | 1.70354 | |
| 1 13/16-6 or 1.8125-6 | UN | 2A | 1.7017 | 1.6295 | 1.6933 | 1.6572 | 1.81000 | 1.79180 | 1.8125 | 1.7042 | 1.7873 | 1.7151 | 1.63200 | 1.66300 | 2B |
| | | | 1.7012 | 1.6287 | 1.6938 | 1.6580 | 1.80984 | 1.79196 | 1.8133 | 1.7047 | 1.7865 | 1.7146 | 1.63216 | 1.66284 | |
| | | 3A | 1.7042 | 1.6320 | 1.6979 | 1.6618 | 1.81250 | 1.79430 | 1.8125 | 1.7042 | 1.7846 | 1.7124 | 1.63200 | 1.65210 | 3B |
| | | | 1.7037 | 1.6312 | 1.6984 | 1.6626 | 1.81234 | 1.79446 | 1.8133 | 1.7047 | 1.7838 | 1.7119 | 1.63216 | 1.65194 | |
| 1 13/16-8 or 1.8125-8 | UN | 2A | 1.7290 | 1.6749 | 1.7214 | 1.6943 | 1.81020 | 1.79520 | 1.8125 | 1.7313 | 1.7953 | 1.7412 | 1.67700 | 1.70200 | 2B |
| | | | 1.7285 | 1.6742 | 1.7219 | 1.6950 | 1.81004 | 1.79536 | 1.8132 | 1.7318 | 1.7946 | 1.7407 | 1.67716 | 1.70184 | |
| | | 3A | 1.7313 | 1.6772 | 1.7256 | 1.6985 | 1.81250 | 1.79750 | 1.8125 | 1.7313 | 1.7928 | 1.7387 | 1.67700 | 1.69220 | 3B |
| | | | 1.7308 | 1.6765 | 1.7261 | 1.6992 | 1.81234 | 1.79766 | 1.8132 | 1.7318 | 1.7921 | 1.7382 | 1.67716 | 1.69204 | |
| 1 13/16-12 or 1.8125-12 | UN | 2A | 1.7566 | 1.7205 | 1.7506 | 1.7326 | 1.81070 | 1.79930 | 1.8125 | 1.7584 | 1.8023 | 1.7662 | 1.72200 | 1.74000 | 2B |
| | | | 1.7562 | 1.7199 | 1.7510 | 1.7332 | 1.81054 | 1.79946 | 1.8131 | 1.7588 | 1.8017 | 1.7658 | 1.72216 | 1.73984 | |
| | | 3A | 1.7584 | 1.7223 | 1.7539 | 1.7359 | 1.81250 | 1.80110 | 1.8125 | 1.7584 | 1.8003 | 1.7642 | 1.72200 | 1.73230 | 3B |
| | | | 1.7580 | 1.7217 | 1.7543 | 1.7365 | 1.81234 | 1.80126 | 1.8131 | 1.7588 | 1.7997 | 1.7638 | 1.72216 | 1.73214 | |
| 1 13/16-16 or 1.8125-16 | UN | 2A | 1.7703 | 1.7432 | 1.7650 | 1.7515 | 1.81090 | 1.80150 | 1.8125 | 1.7719 | 1.8059 | 1.7788 | 1.74500 | 1.75900 | 2B |
| | | | 1.7699 | 1.7426 | 1.7654 | 1.7521 | 1.81074 | 1.80166 | 1.8131 | 1.7723 | 1.8053 | 1.7784 | 1.74516 | 1.75884 | |
| | | 3A | 1.7719 | 1.7448 | 1.7679 | 1.7544 | 1.81250 | 1.80310 | 1.8125 | 1.7719 | 1.8042 | 1.7771 | 1.74500 | 1.75330 | 3B |
| | | | 1.7715 | 1.7442 | 1.7683 | 1.7550 | 1.81234 | 1.80326 | 1.8131 | 1.7723 | 1.8036 | 1.7767 | 1.74516 | 1.75314 | |
| 1 13/16-20 or 1.8125-20 | UN | 2A | 1.7785 | 1.7568 | 1.7737 | 1.7629 | 1.81100 | 1.80290 | 1.8125 | 1.7800 | 1.8080 | 1.7863 | 1.75800 | 1.77000 | 2B |
| | | | 1.7781 | 1.7563 | 1.7741 | 1.7634 | 1.81084 | 1.80306 | 1.8130 | 1.7804 | 1.8075 | 1.7859 | 1.75816 | 1.76984 | |
| | | 3A | 1.7800 | 1.7583 | 1.7764 | 1.7656 | 1.81250 | 1.80440 | 1.8125 | 1.7800 | 1.8064 | 1.7847 | 1.75800 | 1.76620 | 3B |
| | | | 1.7796 | 1.7578 | 1.7768 | 1.7661 | 1.81234 | 1.80456 | 1.8130 | 1.7804 | 1.8059 | 1.7843 | 1.75816 | 1.76604 | |
| 1 7/8-6 or 1.875-6 | UN | 2A | 1.7642 | 1.6920 | 1.7558 | 1.7197 | 1.87250 | 1.85430 | 1.8750 | 1.7667 | 1.8499 | 1.7777 | 1.69500 | 1.72500 | 2B |
| | | | 1.7637 | 1.6912 | 1.7563 | 1.7205 | 1.87234 | 1.85446 | 1.8758 | 1.7672 | 1.8491 | 1.7772 | 1.69516 | 1.72484 | |
| | | 3A | 1.7667 | 1.6945 | 1.7604 | 1.7243 | 1.87500 | 1.85680 | 1.8750 | 1.7667 | 1.8471 | 1.7749 | 1.69500 | 1.71460 | 3B |
| | | | 1.7662 | 1.6937 | 1.7609 | 1.7251 | 1.87484 | 1.85696 | 1.8758 | 1.7672 | 1.8463 | 1.7744 | 1.69516 | 1.71444 | |
| 1 7/8-8 or 1.875-8 | UN | 2A | 1.7915 | 1.7374 | 1.7838 | 1.7567 | 1.87270 | 1.85770 | 1.8750 | 1.7938 | 1.8579 | 1.8038 | 1.74000 | 1.76500 | 2B |
| | | | 1.7910 | 1.7367 | 1.7843 | 1.7574 | 1.87254 | 1.85786 | 1.8757 | 1.7943 | 1.8572 | 1.8033 | 1.74016 | 1.76484 | |
| | | 3A | 1.7938 | 1.7397 | 1.7881 | 1.7610 | 1.87500 | 1.86000 | 1.8750 | 1.7938 | 1.8554 | 1.8013 | 1.74000 | 1.75470 | 3B |
| | | | 1.7933 | 1.7390 | 1.7886 | 1.7617 | 1.87484 | 1.86016 | 1.8757 | 1.7943 | 1.8547 | 1.8008 | 1.74016 | 1.75454 | |
| 1 7/8-12 or 1.875-12 | UN | 2A | 1.8191 | 1.7830 | 1.8131 | 1.7951 | 1.87320 | 1.86180 | 1.8750 | 1.8209 | 1.8648 | 1.8287 | 1.78500 | 1.80300 | 2B |
| | | | 1.8187 | 1.7824 | 1.8135 | 1.7957 | 1.87304 | 1.86196 | 1.8756 | 1.8213 | 1.8642 | 1.8283 | 1.78516 | 1.80284 | |
| | | 3A | 1.8209 | 1.7848 | 1.8164 | 1.7984 | 1.87500 | 1.86360 | 1.8750 | 1.8209 | 1.8628 | 1.8267 | 1.78500 | 1.79480 | 3B |
| | | | 1.8205 | 1.7842 | 1.8168 | 1.7990 | 1.87484 | 1.86376 | 1.8756 | 1.8213 | 1.8622 | 1.8263 | 1.78516 | 1.79464 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1⅞-16 or 1.875-16 | UN | 2A | 1.8328 | 1.8057 | 1.8275 | 1.8140 | 1.87340 | 1.86400 | 1.8750 | 1.8344 | 1.8684 | 1.8413 | 1.80700 | 1.82100 | 2B |
| | | | 1.8324 | 1.8051 | 1.8279 | 1.8146 | 1.87324 | 1.86416 | 1.8756 | 1.8348 | 1.8678 | 1.8409 | 1.80716 | 1.82084 | |
| | | 3A | 1.8344 | 1.8073 | 1.8304 | 1.8169 | 1.87500 | 1.86560 | 1.8750 | 1.8344 | 1.8667 | 1.8396 | 1.80700 | 1.81580 | 3B |
| | | | 1.8340 | 1.8067 | 1.8308 | 1.8175 | 1.87484 | 1.86576 | 1.8756 | 1.8348 | 1.8661 | 1.8392 | 1.80716 | 1.81564 | |
| 1⅞-20 or 1.875-20 | UN | 2A | 1.8410 | 1.8193 | 1.8362 | 1.8254 | 1.87350 | 1.86540 | 1.8750 | 1.8425 | 1.8705 | 1.8488 | 1.82100 | 1.83200 | 2B |
| | | | 1.8406 | 1.8188 | 1.8366 | 1.8259 | 1.87334 | 1.86556 | 1.8755 | 1.8429 | 1.8700 | 1.8484 | 1.82116 | 1.83184 | |
| | | 3A | 1.8425 | 1.8208 | 1.8389 | 1.8281 | 1.87500 | 1.86690 | 1.8750 | 1.8425 | 1.8689 | 1.8472 | 1.82100 | 1.82870 | 3B |
| | | | 1.8421 | 1.8203 | 1.8393 | 1.8286 | 1.87484 | 1.86706 | 1.8755 | 1.8429 | 1.8684 | 1.8468 | 1.82116 | 1.82854 | |
| 1 15/16-6 or 1.9375-6 | UN | 2A | 1.8266 | 1.7544 | 1.8181 | 1.7820 | 1.93490 | 1.91670 | 1.9375 | 1.8292 | 1.9125 | 1.8403 | 1.75700 | 1.78800 | 2B |
| | | | 1.8261 | 1.7536 | 1.8186 | 1.7828 | 1.93474 | 1.91686 | 1.9383 | 1.8297 | 1.9117 | 1.8398 | 1.75716 | 1.78784 | |
| | | 3A | 1.8292 | 1.7570 | 1.8228 | 1.7867 | 1.93750 | 1.91930 | 1.9375 | 1.8292 | 1.9097 | 1.8375 | 1.75700 | 1.77710 | 3B |
| | | | 1.8287 | 1.7562 | 1.8233 | 1.7875 | 1.93734 | 1.91946 | 1.9383 | 1.8297 | 1.9089 | 1.8370 | 1.75716 | 1.77694 | |
| 1 15/16-8 or 1.9375-8 | UN | 2A | 1.8540 | 1.7999 | 1.8463 | 1.8192 | 1.93520 | 1.92020 | 1.9375 | 1.8563 | 1.9204 | 1.8663 | 1.80200 | 1.82700 | 2B |
| | | | 1.8535 | 1.7992 | 1.8468 | 1.9199 | 1.93504 | 1.92036 | 1.9382 | 1.8568 | 1.9197 | 1.8658 | 1.80216 | 1.82684 | |
| | | 3A | 1.8563 | 1.8022 | 1.8505 | 1.8234 | 1.93750 | 1.92250 | 1.9375 | 1.8563 | 1.9179 | 1.8638 | 1.80200 | 1.81720 | 3B |
| | | | 1.8558 | 1.8015 | 1.8510 | 1.8241 | 1.93734 | 1.92266 | 1.9382 | 1.8568 | 1.9172 | 1.8633 | 1.80216 | 1.81704 | |
| 1 15/16-12 or 1.9375-12 | UN | 2A | 1.8816 | 1.8455 | 1.8755 | 1.8575 | 1.93570 | 1.92430 | 1.9375 | 1.8834 | 1.9274 | 1.8913 | 1.84700 | 1.86500 | 2B |
| | | | 1.8812 | 1.8449 | 1.8759 | 1.8581 | 1.93554 | 1.92446 | 1.9381 | 1.8838 | 1.9268 | 1.8909 | 1.84716 | 1.86484 | |
| | | 3A | 1.8834 | 1.8473 | 1.8789 | 1.8609 | 1.93750 | 1.92610 | 1.9375 | 1.8834 | 1.9254 | 1.8893 | 1.84700 | 1.85730 | 3B |
| | | | 1.8830 | 1.8467 | 1.8793 | 1.8615 | 1.93734 | 1.92626 | 1.9381 | 1.8838 | 1.9248 | 1.8889 | 1.84716 | 1.85714 | |
| 1 15/16-16 or 1.9375-16 | UN | 2A | 1.8953 | 1.8682 | 1.8899 | 1.8764 | 1.93590 | 1.92650 | 1.9375 | 1.8969 | 1.9310 | 1.9039 | 1.87000 | 1.88400 | 2B |
| | | | 1.8949 | 1.8676 | 1.8903 | 1.8770 | 1.93574 | 1.92666 | 1.9381 | 1.8973 | 1.9304 | 1.9035 | 1.87016 | 1.88384 | |
| | | 3A | 1.8969 | 1.8698 | 1.8929 | 1.8794 | 1.93750 | 1.92810 | 1.9375 | 1.8969 | 1.9292 | 1.9021 | 1.87000 | 1.87830 | 3B |
| | | | 1.8965 | 1.8692 | 1.8933 | 1.8800 | 1.93734 | 1.92826 | 1.9381 | 1.8973 | 1.9286 | 1.9017 | 1.87016 | 1.87814 | |
| 1 15/16-20 or 1.9375-20 | UN | 2A | 1.9035 | 1.8818 | 1.8986 | 1.8878 | 1.93600 | 1.92790 | 1.9375 | 1.9050 | 1.9331 | 1.9114 | 1.88300 | 1.89500 | 2B |
| | | | 1.9031 | 1.8813 | 1.8990 | 1.8883 | 1.93584 | 1.92806 | 1.9380 | 1.9054 | 1.9326 | 1.9110 | 1.88316 | 1.89484 | |
| | | 3A | 1.9050 | 1.8833 | 1.9013 | 1.8905 | 1.93750 | 1.92940 | 1.9375 | 1.9050 | 1.9315 | 1.9098 | 1.88300 | 1.89120 | 3B |
| | | | 1.9046 | 1.8828 | 1.9017 | 1.8910 | 1.93734 | 1.92956 | 1.9380 | 1.9054 | 1.9310 | 1.9094 | 1.88316 | 1.89104 | |
| 2-4½ or 2.000-4.5 | UNC | 1A | 1.8528 | 1.7566 | 1.8385 | 1.7904 | 1.99710 | 1.96410 | 2.0000 | 1.8557 | 1.9705 | 1.8743 | 1.75900 | 1.79500 | 1B |
| | | | 1.8523 | 1.7558 | 1.8390 | 1.7912 | 1.99694 | 1.96426 | 2.0008 | 1.8562 | 1.9697 | 1.8738 | 1.75916 | 1.79484 | |
| | | 2A | 1.8528 | 1.7566 | 1.8433 | 1.7952 | 1.99710 | 1.97510 | 2.0000 | 1.8557 | 1.9643 | 1.8681 | 1.75900 | 1.78500 | 2B |
| | | | 1.8523 | 1.7558 | 1.8438 | 1.7960 | 1.99694 | 1.97526 | 2.0008 | 1.8562 | 1.9635 | 1.8676 | 1.75916 | 1.79484 | |
| | | 3A | 1.8557 | 1.7595 | 1.8486 | 1.8005 | 2.00000 | 1.97800 | 2.0000 | 1.8557 | 1.9612 | 1.8650 | 1.75900 | 1.78610 | 3B |
| | | | 1.8552 | 1.7587 | 1.8491 | 1.8013 | 1.99984 | 1.97816 | 2.0008 | 1.8562 | 1.9604 | 1.8645 | 1.75916 | 1.78594 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 2-6 or 2.000-6 | UN | 2A | 1.8891 | 1.8169 | 1.8805 | 1.8444 | 1.99740 | 1.97920 | 2.0000 | 1.8917 | 1.9750 | 1.9028 | 1.82000 | 1.85000 | 2B |
| | | | 1.8886 | 1.8161 | 1.8810 | 1.8452 | 1.99724 | 1.97936 | 2.0008 | 1.8922 | 1.9742 | 1.9023 | 1.82016 | 1.84984 | |
| | | 3A | 1.8917 | 1.8195 | 1.8853 | 1.8492 | 2.00000 | 1.98180 | 2.0000 | 1.8917 | 1.9722 | 1.9000 | 1.82000 | 1.83960 | 3B |
| | | | 1.8912 | 1.8187 | 1.8858 | 1.8500 | 1.99984 | 1.98196 | 2.0008 | 1.8922 | 1.9714 | 1.8995 | 1.82016 | 1.83944 | |
| 2-8 or 2.000-8 | UN | 2A | 1.9165 | 1.8624 | 1.9087 | 1.8816 | 1.99770 | 1.98270 | 2.0000 | 1.9188 | 1.9830 | 1.9289 | 1.86500 | 1.89000 | 2B |
| | | | 1.9160 | 1.8617 | 1.9092 | 1.8823 | 1.99754 | 1.98286 | 2.0007 | 1.9193 | 1.9823 | 1.9284 | 1.86516 | 1.88984 | |
| | | 3A | 1.9188 | 1.8647 | 1.9130 | 1.8859 | 2.00000 | 1.98500 | 2.0000 | 1.9188 | 1.9805 | 1.9264 | 1.86500 | 1.87970 | 3B |
| | | | 1.9183 | 1.8640 | 1.9135 | 1.8866 | 1.99984 | 1.98516 | 2.0007 | 1.9193 | 1.9798 | 1.9259 | 1.86516 | 1.87954 | |
| 2-12 or 2.000-12 | UN | 2A | 1.9441 | 1.9080 | 1.9380 | 1.9200 | 1.99820 | 1.98680 | 2.0000 | 1.9459 | 1.9899 | 1.9538 | 1.91000 | 1.92800 | 2B |
| | | | 1.9437 | 1.9074 | 1.9384 | 1.9206 | 1.99804 | 1.98696 | 2.0006 | 1.9463 | 1.9893 | 1.9534 | 1.91016 | 1.92784 | |
| | | 3A | 1.9459 | 1.9098 | 1.9414 | 1.9234 | 2.00000 | 1.98860 | 2.0000 | 1.9459 | 1.9879 | 1.9518 | 1.91000 | 1.91980 | 3B |
| | | | 1.9455 | 1.9092 | 1.9418 | 1.9240 | 1.99984 | 1.98876 | 2.0006 | 1.9463 | 1.9873 | 1.9514 | 1.91016 | 1.91964 | |
| 2-16 or 2.000-16 | UN | 2A | 1.9578 | 1.9307 | 1.9524 | 1.9389 | 1.99840 | 1.98900 | 2.0000 | 1.9594 | 1.9935 | 1.9664 | 1.93200 | 1.94600 | 2B |
| | | | 1.9574 | 1.9301 | 1.9528 | 1.9395 | 1.99824 | 1.98916 | 2.0006 | 1.9598 | 1.9929 | 1.9660 | 1.93216 | 1.94584 | |
| | | 3A | 1.9594 | 1.9323 | 1.9554 | 1.9419 | 2.00000 | 1.99060 | 2.0000 | 1.9594 | 1.9917 | 1.9646 | 1.93200 | 1.94080 | 3B |
| | | | 1.9590 | 1.9317 | 1.9558 | 1.9425 | 1.99984 | 1.99076 | 2.0006 | 1.9598 | 1.9911 | 1.9642 | 1.93216 | 1.94064 | |
| 2-20 or 2.000-20 | UN | 2A | 1.9660 | 1.9443 | 1.9611 | 1.9503 | 1.99850 | 1.99040 | 2.0000 | 1.9675 | 1.9956 | 1.9739 | 1.94600 | 1.95700 | 2B |
| | | | 1.9656 | 1.9438 | 1.9615 | 1.9508 | 1.99834 | 1.99056 | 2.0005 | 1.9679 | 1.9951 | 1.9735 | 1.94616 | 1.95684 | |
| | | 3A | 1.9675 | 1.9458 | 1.9638 | 1.9530 | 2.00000 | 1.99190 | 2.0000 | 1.9675 | 1.9940 | 1.9723 | 1.94600 | 1.95370 | 3B |
| | | | 1.9671 | 1.9453 | 1.9642 | 1.9535 | 1.99984 | 1.99206 | 2.0005 | 1.9679 | 1.9935 | 1.9719 | 1.94616 | 1.95354 | |
| 2⅛-6 or 2.125-6 | UN | 2A | 2.0141 | 1.9419 | 2.0054 | 1.9693 | 2.12240 | 2.10420 | 2.1250 | 2.0167 | 2.1002 | 2.0280 | 1.94500 | 1.97500 | 2B |
| | | | 2.0136 | 1.9411 | 2.0059 | 1.9701 | 2.12224 | 2.10436 | 2.1258 | 2.0172 | 2.0994 | 2.0275 | 1.94516 | 1.97484 | |
| | | 3A | 2.0167 | 1.9445 | 2.0102 | 1.9741 | 2.12500 | 2.10680 | 2.1250 | 2.0167 | 2.0973 | 2.0251 | 1.94500 | 1.96460 | 3B |
| | | | 2.0162 | 1.9437 | 2.0107 | 1.9749 | 2.12484 | 2.10696 | 2.1258 | 2.0172 | 2.0965 | 2.0246 | 1.94516 | 1.96444 | |
| 2⅛-8 or 2.125-8 | UN | 2A | 2.0414 | 1.9873 | 2.0335 | 2.0064 | 2.12260 | 2.10760 | 2.1250 | 2.0438 | 2.1081 | 2.0540 | 1.99000 | 2.01500 | 2B |
| | | | 2.0409 | 1.9866 | 2.0340 | 2.0071 | 2.12244 | 2.10776 | 2.1257 | 2.0443 | 2.1074 | 2.0535 | 1.99016 | 2.01484 | |
| | | 3A | 2.0438 | 1.9897 | 2.0379 | 2.0108 | 2.12500 | 2.11000 | 2.1250 | 2.0438 | 2.1056 | 2.0515 | 1.99000 | 2.00470 | 3B |
| | | | 2.0433 | 1.9890 | 2.0384 | 2.0115 | 2.12484 | 2.11016 | 2.1257 | 2.0443 | 2.1049 | 2.0510 | 1.99016 | 2.00454 | |
| 2⅛-12 or 2.125-12 | UN | 2A | 2.0691 | 2.0330 | 2.0630 | 2.0450 | 2.12320 | 2.11180 | 2.1250 | 2.0709 | 2.1149 | 2.0788 | 2.03500 | 2.05300 | 2B |
| | | | 2.0687 | 2.0324 | 2.0634 | 2.0456 | 2.12304 | 2.11196 | 2.1256 | 2.0713 | 2.1143 | 2.0784 | 2.03516 | 2.05284 | |
| | | 3A | 2.0709 | 2.0348 | 2.0664 | 2.0484 | 2.12500 | 2.11360 | 2.1250 | 2.0709 | 2.1129 | 2.0768 | 2.03500 | 2.04480 | 3B |
| | | | 2.0705 | 2.0342 | 2.0668 | 2.0490 | 2.12484 | 2.11376 | 2.1256 | 2.0713 | 2.1123 | 2.0764 | 2.03516 | 2.04464 | |
| 2⅛-16 or 2.125-16 | UN | 2A | 2.0828 | 2.0557 | 2.0774 | 2.0639 | 2.12340 | 2.11400 | 2.1250 | 2.0844 | 2.1185 | 2.0914 | 2.05700 | 2.07100 | 2B |
| | | | 2.0824 | 2.0551 | 2.0778 | 2.0645 | 2.12324 | 2.11416 | 2.1256 | 2.0848 | 2.1179 | 2.0910 | 2.05716 | 2.07084 | |
| | | 3A | 2.0844 | 2.0573 | 2.0804 | 2.0669 | 2.12500 | 2.11560 | 2.1250 | 2.0844 | 2.1167 | 2.0896 | 2.05700 | 2.06580 | 3B |
| | | | 2.0840 | 2.0567 | 2.0808 | 2.0675 | 2.12484 | 2.11576 | 2.1256 | 2.0848 | 2.1161 | 2.0892 | 2.05716 | 2.06564 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 2⅛-20 or 2.125-20 | UN | 2A | 2.0910 | 2.0693 | 2.0861 | 2.0753 | 2.12350 | 2.11540 | 2.1250 | 2.0925 | 2.1206 | 2.0989 | 2.07100 | 2.08200 | 2B |
| | | | 2.0906 | 2.0688 | 2.0865 | 2.0758 | 2.12334 | 2.11556 | 2.1255 | 2.0929 | 2.1201 | 2.0985 | 2.07116 | 2.08184 | |
| | | 3A | 2.0925 | 2.0708 | 2.0888 | 2.0780 | 2.12500 | 2.11690 | 2.1250 | 2.0925 | 2.1190 | 2.0973 | 2.07100 | 2.07870 | 3B |
| | | | 2.0921 | 2.0703 | 2.0892 | 2.0785 | 2.12484 | 2.11706 | 2.1255 | 2.0929 | 2.1185 | 2.0969 | 2.07116 | 2.07854 | |
| 2¼-4½ or 2.250-4.5 | UNC | 1A | 2.1028 | 2.0066 | 2.0882 | 2.0401 | 2.24710 | 2.21410 | 2.2500 | 2.1057 | 2.2209 | 2.1247 | 2.00900 | 2.04500 | 1B |
| | | | 2.1023 | 2.0058 | 2.0887 | 2.0409 | 2.24694 | 2.21426 | 2.2508 | 2.1062 | 2.2201 | 2.1242 | 2.00916 | 2.04484 | |
| | | 2A | 2.1028 | 2.0066 | 2.0931 | 2.0450 | 2.44710 | 2.22510 | 2.2500 | 2.1057 | 2.2145 | 2.1183 | 2.00900 | 2.04500 | 2B |
| | | | 2.1023 | 2.0058 | 2.0936 | 2.0458 | 2.24694 | 2.22526 | 2.2508 | 2.1062 | 2.2137 | 2.1178 | 2.00916 | 2.04484 | |
| | | 3A | 2.1057 | 2.0095 | 2.0984 | 2.0503 | 2.25040 | 2.22800 | 2.2500 | 2.1057 | 2.2114 | 2.1152 | 2.00900 | 2.03610 | 3B |
| | | | 2.1052 | 2.0087 | 2.0989 | 2.0511 | 2.24984 | 2.22816 | 2.2508 | 2.1062 | 2.2106 | 2.1147 | 2.00916 | 2.03594 | |
| 2¼-6 or 2.250-6 | UN | 2A | 2.1391 | 2.0669 | 2.1303 | 2.0942 | 2.24740 | 2.22920 | 2.2500 | 2.1417 | 2.2253 | 2.1531 | 2.07000 | 2.10000 | 2B |
| | | | 2.1386 | 2.0661 | 2.1308 | 2.0950 | 2.24724 | 2.22936 | 2.2508 | 2.1422 | 2.2245 | 2.1526 | 2.07016 | 2.09984 | |
| | | 3A | 2.1417 | 2.0695 | 2.1351 | 2.0990 | 2.25000 | 2.23180 | 2.2500 | 2.1417 | 2.2224 | 2.1502 | 2.07000 | 2.08960 | 3B |
| | | | 2.1412 | 2.0687 | 2.1356 | 2.0998 | 2.24984 | 2.23196 | 2.2508 | 2.1422 | 2.2216 | 2.1497 | 2.07016 | 2.08944 | |
| 2¼-8 or 2.250-8 | UN | 2A | 2.1664 | 2.1123 | 2.1584 | 2.1313 | 2.24760 | 2.23260 | 2.2500 | 2.1688 | 2.2333 | 2.1792 | 2.11500 | 2.14000 | 2B |
| | | | 2.1659 | 2.1116 | 2.1589 | 2.1320 | 2.24744 | 2.23276 | 2.2507 | 2.1693 | 2.2326 | 2.1787 | 2.11516 | 2.13984 | |
| | | 3A | 2.1688 | 2.1147 | 2.1628 | 2.1357 | 2.25000 | 2.23500 | 2.2500 | 2.1688 | 2.2307 | 2.1766 | 2.11500 | 2.12970 | 3B |
| | | | 2.1683 | 2.1140 | 2.1633 | 2.1364 | 2.24984 | 2.23516 | 2.2507 | 2.1693 | 2.2300 | 2.1761 | 2.11516 | 2.12954 | |
| 2¼-12 or 2.250-12 | UN | 2A | 2.1941 | 2.1580 | 2.1880 | 2.1700 | 2.24820 | 2.23680 | 2.2500 | 2.1959 | 2.2399 | 2.2038 | 2.16000 | 2.17800 | 2B |
| | | | 2.1937 | 2.1574 | 2.1884 | 2.1706 | 2.24804 | 2.23696 | 2.2506 | 2.1963 | 2.2393 | 2.2034 | 2.16016 | 2.17784 | |
| | | 3A | 2.1959 | 2.1598 | 2.1914 | 2.1734 | 2.25000 | 2.23860 | 2.2500 | 2.1959 | 2.2379 | 2.2018 | 2.16000 | 2.16980 | 3B |
| | | | 2.1955 | 2.1592 | 2.1918 | 2.1740 | 2.24984 | 2.23876 | 2.2506 | 2.1963 | 2.2373 | 2.2014 | 2.16016 | 2.16964 | |
| 2¼-16 or 2.250-16 | UN | 2A | 2.2078 | 2.1807 | 2.2024 | 2.1889 | 2.24840 | 2.23900 | 2.2500 | 2.2094 | 2.2435 | 2.2164 | 2.18200 | 2.19600 | 2B |
| | | | 2.2074 | 2.1801 | 2.2028 | 2.1895 | 2.24824 | 2.23916 | 2.2506 | 2.2098 | 2.2429 | 2.2160 | 2.18216 | 2.19584 | |
| | | 3A | 2.2094 | 2.1823 | 2.2054 | 2.1919 | 2.25000 | 2.24060 | 2.2500 | 2.2094 | 2.2417 | 2.2146 | 2.18200 | 2.19080 | 3B |
| | | | 2.2090 | 2.1817 | 2.2058 | 2.1925 | 2.24984 | 2.24076 | 2.2506 | 2.2098 | 2.2411 | 2.2142 | 2.18216 | 2.19064 | |
| 2¼-20 or 2.250-20 | UN | 2A | 2.2160 | 2.1943 | 2.2111 | 2.2003 | 2.24850 | 2.24040 | 2.2500 | 2.2175 | 2.2456 | 2.2239 | 2.19600 | 2.20700 | 2B |
| | | | 2.2156 | 2.1938 | 2.2115 | 2.2008 | 2.24834 | 2.24056 | 2.2505 | 2.2179 | 2.2451 | 2.2235 | 2.19616 | 2.20684 | |
| | | 3A | 2.2175 | 2.1958 | 2.2138 | 2.2030 | 2.25000 | 2.24190 | 2.2500 | 2.2175 | 2.2440 | 2.2223 | 2.19600 | 2.20370 | 3B |
| | | | 2.2171 | 2.1953 | 2.2142 | 2.2035 | 2.24984 | 2.24206 | 2.2505 | 2.2179 | 2.2435 | 2.2219 | 2.19616 | 2.20354 | |
| 2⅜-6 or 2.375-6 | UN | 2A | 2.2640 | 2.1918 | 2.2551 | 2.2190 | 2.37230 | 2.35410 | 2.3750 | 2.2667 | 2.3504 | 2.2782 | 2.19500 | 2.22600 | 2B |
| | | | 2.2635 | 2.1910 | 2.2556 | 2.2198 | 2.37214 | 2.35426 | 2.3758 | 2.2672 | 2.3496 | 2.2777 | 2.19516 | 2.22584 | |
| | | 3A | 2.2667 | 2.1945 | 2.2601 | 2.2240 | 2.37500 | 2.35680 | 2.3750 | 2.2667 | 2.3475 | 2.2753 | 2.19500 | 2.21460 | 3B |
| | | | 2.2662 | 2.1937 | 2.2606 | 2.2248 | 2.37484 | 2.35696 | 2.3758 | 2.2672 | 2.3467 | 2.2748 | 2.19516 | 2.21444 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 2⅜-8 or 2.375-8 | UN | 2A | 2.2914 | 2.2373 | 2.2833 | 2.2562 | 2.37260 | 2.35760 | 2.3750 | 2.2938 | 2.3584 | 2.3043 | 2.24000 | 2.26500 | 2B |
| | | | 2.2909 | 2.2366 | 2.2838 | 2.2569 | 2.37244 | 2.35776 | 2.3757 | 2.2943 | 2.3577 | 2.3038 | 2.24016 | 2.26484 | |
| | | 3A | 2.2938 | 2.2397 | 2.2878 | 2.2607 | 2.37500 | 2.36000 | 2.3750 | 2.2938 | 2.3558 | 2.3017 | 2.24000 | 2.25470 | 3B |
| | | | 2.2933 | 2.2390 | 2.2883 | 2.2614 | 2.37484 | 2.36016 | 2.3757 | 2.2943 | 2.3551 | 2.3012 | 2.24016 | 2.25454 | |
| 2⅜-12 or 2.375-12 | UN | 2A | 2.3190 | 2.2829 | 2.3128 | 2.2948 | 2.37310 | 2.36170 | 2.3750 | 2.3209 | 2.3651 | 2.3290 | 2.28500 | 2.30300 | 2B |
| | | | 2.3186 | 2.2823 | 2.3132 | 2.2954 | 2.37294 | 2.36186 | 2.3756 | 2.3213 | 2.3645 | 2.3286 | 2.28516 | 2.30284 | |
| | | 3A | 2.3209 | 2.2848 | 2.3163 | 2.2983 | 2.37500 | 2.36360 | 2.3750 | 2.3209 | 2.3630 | 2.3269 | 2.28500 | 2.29480 | 3B |
| | | | 2.3205 | 2.2842 | 2.3167 | 2.2989 | 2.37484 | 2.36376 | 2.3756 | 2.3213 | 2.3624 | 2.3265 | 2.28516 | 2.29464 | |
| 2⅜-16 or 2.375-16 | UN | 2A | 2.3327 | 2.3056 | 2.3272 | 2.3137 | 2.37330 | 2.36390 | 2.3750 | 2.3344 | 2.3687 | 2.3416 | 2.30700 | 2.32100 | 2B |
| | | | 2.3323 | 2.3050 | 2.3276 | 2.3143 | 2.37314 | 2.36406 | 2.3756 | 2.3348 | 2.3681 | 2.3412 | 2.30716 | 2.32084 | |
| | | 3A | 2.3344 | 2.3073 | 2.3303 | 2.3168 | 2.37500 | 2.36560 | 2.3750 | 2.3344 | 2.3669 | 2.3398 | 2.30700 | 2.31580 | 3B |
| | | | 2.3340 | 2.3067 | 2.3307 | 2.3174 | 2.37484 | 2.36576 | 2.3756 | 2.3348 | 2.3663 | 2.3394 | 2.30716 | 2.31564 | |
| 2⅜-20 or 2.375-20 | UN | 2A | 2.3410 | 2.3193 | 2.3359 | 2.3251 | 2.37350 | 2.36540 | 2.3750 | 2.3425 | 2.3708 | 2.3491 | 2.32100 | 2.33200 | 2B |
| | | | 2.3406 | 2.3188 | 2.3363 | 2.3256 | 2.37334 | 2.36556 | 2.3755 | 2.3429 | 2.3703 | 2.3487 | 2.32116 | 2.33184 | |
| | | 3A | 2.3425 | 2.3208 | 2.3387 | 2.3279 | 2.37500 | 2.36690 | 2.3750 | 2.3425 | 2.3692 | 2.3475 | 2.32100 | 2.32870 | 3B |
| | | | 2.3421 | 2.3203 | 2.3391 | 2.3284 | 2.37484 | 2.36706 | 2.3755 | 2.3429 | 2.3687 | 2.3471 | 2.32116 | 2.32854 | |
| 2½-4 or 2.500-4 | UNC | 1A | 2.3345 | 2.2262 | 2.3190 | 2.2649 | 2.49690 | 2.46120 | 2.5000 | 2.3376 | 2.4661 | 2.3578 | 2.22900 | 2.26700 | 1B |
| | | | 2.3340 | 2.2253 | 2.3195 | 2.2658 | 2.49674 | 2.46136 | 2.5009 | 2.3381 | 2.4652 | 2.3573 | 2.22916 | 2.26684 | |
| | | 2A | 2.3345 | 2.2262 | 2.3241 | 2.2700 | 2.49690 | 2.47310 | 2.5000 | 2.3376 | 2.4594 | 2.3511 | 2.22900 | 2.26700 | 2B |
| | | | 2.3340 | 2.2253 | 2.3246 | 2.2709 | 2.49674 | 2.47326 | 2.5009 | 2.3381 | 2.4585 | 2.3506 | 2.22916 | 2.26684 | |
| | | 3A | 2.3376 | 2.2293 | 2.3298 | 2.2757 | 2.50000 | 2.47620 | 2.5000 | 2.3376 | 2.4560 | 2.3477 | 2.22900 | 2.25940 | 3B |
| | | | 2.3371 | 2.2284 | 2.3303 | 2.2766 | 2.49984 | 2.47636 | 2.5009 | 2.3381 | 2.4551 | 2.3472 | 2.22916 | 2.25924 | |
| 2½-6 or 2.500-6 | UN | 2A | 2.3890 | 2.3168 | 2.3800 | 2.3439 | 2.49730 | 2.47910 | 2.5000 | 2.3917 | 2.4755 | 2.4033 | 2.32000 | 2.35000 | 2B |
| | | | 2.3885 | 2.3160 | 2.3805 | 2.3447 | 2.49714 | 2.47926 | 2.5008 | 2.3922 | 2.4747 | 2.4028 | 2.32016 | 2.34984 | |
| | | 3A | 2.3917 | 2.3195 | 2.3850 | 2.3489 | 2.50000 | 2.48180 | 2.5000 | 2.3917 | 2.4726 | 2.4004 | 2.32000 | 2.33960 | 3B |
| | | | 2.3912 | 2.3187 | 2.3855 | 2.3497 | 2.49984 | 2.48196 | 2.5008 | 2.3922 | 2.4718 | 2.3999 | 2.32016 | 2.33944 | |
| 2½-8 or 2.500-8 | UN | 2A | 2.4164 | 2.3623 | 2.4082 | 2.3811 | 2.49760 | 2.48260 | 2.5000 | 2.4188 | 2.4835 | 2.4294 | 2.36500 | 2.39000 | 2B |
| | | | 2.4159 | 2.3616 | 2.4087 | 2.3818 | 2.49744 | 2.48276 | 2.5007 | 2.4193 | 2.4828 | 2.4289 | 2.36516 | 2.38984 | |
| | | 3A | 2.4188 | 2.3647 | 2.4127 | 2.3856 | 2.50000 | 2.48500 | 2.5000 | 2.4188 | 2.4809 | 2.4268 | 2.36500 | 2.37970 | 3B |
| | | | 2.4183 | 2.3640 | 2.4132 | 2.3863 | 2.49984 | 2.48516 | 2.5007 | 2.4193 | 2.4802 | 2.4263 | 2.36516 | 2.37954 | |
| 2½-12 or 2.500-12 | UN | 2A | 2.4440 | 2.4079 | 2.4378 | 2.4198 | 2.49810 | 2.48670 | 2.5000 | 2.4459 | 2.4901 | 2.4540 | 2.41000 | 2.42800 | 2B |
| | | | 2.4436 | 2.4073 | 2.4382 | 2.4204 | 2.49794 | 2.48686 | 2.5006 | 2.4463 | 2.4895 | 2.4536 | 2.41016 | 2.42784 | |
| | | 3A | 2.4459 | 2.4098 | 2.4413 | 2.4233 | 2.50000 | 2.48860 | 2.5000 | 2.4459 | 2.4880 | 2.4519 | 2.41000 | 2.41980 | 3B |
| | | | 2.4455 | 2.4092 | 2.4417 | 2.4239 | 2.49984 | 2.48876 | 2.5006 | 2.4463 | 2.4874 | 2.4515 | 2.41016 | 2.41964 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 2½-16 or 2.500-16 | UN | 2A | 2.4577 | 2.4306 | 2.4522 | 2.4387 | 2.49830 | 2.48890 | 2.5000 | 2.4594 | 2.4937 | 2.4666 | 2.43200 | 2.44600 | 2B |
| | | | 2.4573 | 2.4300 | 2.4526 | 2.4393 | 2.49814 | 2.48906 | 2.5006 | 2.4598 | 2.4931 | 2.4662 | 2.43216 | 2.44584 | |
| | | 3A | 2.4594 | 2.4323 | 2.4553 | 2.4418 | 2.50000 | 2.49060 | 2.5000 | 2.4594 | 2.4919 | 2.4648 | 2.43200 | 2.44080 | 3B |
| | | | 2.4590 | 2.4317 | 2.4557 | 2.4424 | 2.49984 | 2.49076 | 2.5006 | 2.4598 | 2.4913 | 2.4644 | 2.43216 | 2.44064 | |
| 2½-20 or 2.500-20 | UN | 2A | 2.4660 | 2.4443 | 2.4609 | 2.4501 | 2.49850 | 2.49040 | 2.5000 | 2.4675 | 2.4958 | 2.4741 | 2.44600 | 2.45700 | 2B |
| | | | 2.4656 | 2.4438 | 2.4613 | 2.4506 | 2.49834 | 2.49056 | 2.5005 | 2.4679 | 2.4953 | 2.4737 | 2.44616 | 2.45684 | |
| | | 3A | 2.4675 | 2.4458 | 2.4637 | 2.4529 | 2.50000 | 2.49190 | 2.5000 | 2.4675 | 2.4942 | 2.4725 | 2.44600 | 2.45370 | 3B |
| | | | 2.4671 | 2.4453 | 2.4641 | 2.4534 | 2.49984 | 2.49206 | 2.5005 | 2.4679 | 2.4937 | 2.4721 | 2.44616 | 2.45354 | |
| 2⅝-6 or 2.625-6 | UN | 2A | 2.5140 | 2.4418 | 2.5050 | 2.4689 | 2.6223 | 2.6041 | 2.6250 | 2.5167 | 2.6007 | 2.5285 | 2.4450 | 2.4750 | 2B |
| | | | 2.5135 | 2.4410 | 2.5055 | 2.4697 | 2.6221 | 2.6043 | 2.6258 | 2.5172 | 2.5999 | 2.5280 | 2.4452 | 2.4748 | |
| | | 3A | 2.5167 | 2.4445 | 2.5099 | 2.4738 | 2.6250 | 2.6068 | 2.6250 | 2.5167 | 2.5977 | 2.5255 | 2.4450 | 2.4646 | 3B |
| | | | 2.5162 | 2.4437 | 2.5104 | 2.4746 | 2.6248 | 2.6070 | 2.6258 | 2.5172 | 2.5969 | 2.5250 | 2.4452 | 2.4644 | |
| 2⅝-8 or 2.625-8 | UN | 2A | 2.5413 | 2.4872 | 2.5331 | 2.5060 | 2.6225 | 2.6075 | 2.6250 | 2.5438 | 2.6086 | 2.5545 | 2.4900 | 2.5150 | 2B |
| | | | 2.5408 | 2.4865 | 2.5336 | 2.5067 | 2.6223 | 2.6077 | 2.6257 | 2.5443 | 2.6079 | 2.5540 | 2.4902 | 2.5148 | |
| | | 3A | 2.5438 | 2.4897 | 2.5376 | 2.5105 | 2.6250 | 2.6100 | 2.6250 | 2.5438 | 2.6059 | 2.5518 | 2.4900 | 2.5047 | 3B |
| | | | 2.5433 | 2.4890 | 2.5381 | 2.5112 | 2.6248 | 2.6102 | 2.6257 | 2.5443 | 2.6052 | 2.5513 | 2.4902 | 2.5045 | |
| 2⅝-12 or 2.625-12 | UN | 2A | 2.5690 | 2.5329 | 2.5628 | 2.5448 | 2.6231 | 2.6117 | 2.6250 | 2.5709 | 2.6151 | 2.5790 | 2.5350 | 2.5530 | 2B |
| | | | 2.5686 | 2.5323 | 2.5632 | 2.5454 | 2.6229 | 2.6119 | 2.6256 | 2.5713 | 2.6145 | 2.5786 | 2.5352 | 2.5528 | |
| | | 3A | 2.5709 | 2.5348 | 2.5663 | 2.5483 | 2.6250 | 2.6136 | 2.6250 | 2.5709 | 2.6130 | 2.5769 | 2.5350 | 2.5448 | 3B |
| | | | 2.5705 | 2.5342 | 2.5667 | 2.5489 | 2.6248 | 2.6138 | 2.6256 | 2.5713 | 2.6124 | 2.5765 | 2.5352 | 2.5446 | |
| 2⅝-16 or 2.625-16 | UN | 2A | 2.5827 | 2.5556 | 2.5772 | 2.5637 | 2.6233 | 2.6139 | 2.6250 | 2.5844 | 2.6187 | 2.5916 | 2.5570 | 2.5710 | 2B |
| | | | 2.5823 | 2.5550 | 2.5776 | 2.5643 | 2.6231 | 2.6141 | 2.6256 | 2.5848 | 2.6181 | 2.5912 | 2.5572 | 2.5708 | |
| | | 3A | 2.5844 | 2.5573 | 2.5803 | 2.5668 | 2.6250 | 2.6156 | 2.6250 | 2.5844 | 2.6169 | 2.5898 | 2.5570 | 2.5658 | 3B |
| | | | 2.5840 | 2.5567 | 2.5807 | 2.5674 | 2.6248 | 2.6158 | 2.6256 | 2.5848 | 2.6163 | 2.5894 | 2.5572 | 2.5656 | |
| 2⅝-20 or 2.625-20 | UN | 2A | 2.5910 | 2.5693 | 2.5859 | 2.5751 | 2.6235 | 2.6154 | 2.6250 | 2.5925 | 2.6208 | 2.5991 | 2.5710 | 2.5820 | 2B |
| | | | 2.5906 | 2.5688 | 2.5863 | 2.5756 | 2.6233 | 2.6156 | 2.6255 | 2.5929 | 2.6203 | 2.5987 | 2.5712 | 2.5818 | |
| | | 3A | 2.5925 | 2.5708 | 2.5887 | 2.5779 | 2.6250 | 2.6169 | 2.6250 | 2.5925 | 2.6192 | 2.5975 | 2.5710 | 2.5787 | 3B |
| | | | 2.5921 | 2.5703 | 2.5891 | 2.5784 | 2.6248 | 2.6171 | 2.6255 | 2.5929 | 2.6187 | 2.5971 | 2.5712 | 2.5785 | |
| 2¾-4 or 2.750-4 | UNC | 1A | 2.5844 | 2.4761 | 2.5686 | 2.5145 | 2.7468 | 2.7111 | 2.7500 | 2.5876 | 2.7165 | 2.6082 | 2.4790 | 2.5170 | 1B |
| | | | 2.5839 | 2.4752 | 2.5691 | 2.5154 | 2.7466 | 2.7113 | 2.7509 | 2.5881 | 2.7156 | 2.6077 | 2.4792 | 2.5168 | |
| | | 2A | 2.5844 | .24761 | 2.5739 | 2.5198 | 2.7468 | 2.7230 | 2.7500 | 2.5876 | 2.7096 | 2.6013 | 2.4790 | 2.5170 | 2B |
| | | | 2.5839 | 2.4752 | 2.5744 | 2.5207 | 2.7466 | 2.7232 | 2.7509 | 2.5881 | 2.7087 | 2.6008 | 2.4792 | 2.5168 | |
| | | 3A | 2.5876 | 2.4793 | 2.5797 | 2.5256 | 2.7500 | 2.7262 | 2.7500 | 2.5876 | 2.7062 | 2.5979 | 2.4790 | 2.5094 | 3B |
| | | | 2.5871 | 2.4784 | 2.5802 | 2.5265 | 2.7498 | 2.7264 | 2.7509 | 2.5881 | 2.7053 | 2.5974 | 2.4792 | 2.5092 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 2¾-6 or 2.750-6 | UN | 2A | 2.6390 | 2.5668 | 2.6299 | 2.5938 | 2.7473 | 2.7291 | 2.7500 | 2.6417 | 2.7258 | 2.6536 | 2.5700 | 2.6000 | 2B |
| | | | 2.6385 | 2.5660 | 2.6304 | 2.5946 | 2.7471 | 2.7293 | 2.7508 | 2.6422 | 2.7250 | 2.6531 | 2.5702 | 2.5998 | |
| | | 3A | 2.6417 | 2.5695 | 2.6349 | 2.5988 | 2.7500 | 2.7318 | 2.7500 | 2.6417 | 2.7228 | 2.6506 | 2.5700 | 2.5896 | 3B |
| | | | 2.6412 | 2.5687 | 2.6354 | 2.5996 | 2.7498 | 2.7320 | 2.7508 | 2.6422 | 2.7220 | 2.6501 | 2.5702 | 2.5894 | |
| 2¾-8 or 2.750-8 | UN | 2A | 2.6663 | 2.6122 | 2.6580 | 2.6309 | 2.7475 | 2.7325 | 2.7500 | 2.6688 | 2.7337 | 2.6796 | 2.6150 | 2.6400 | 2B |
| | | | 2.6658 | 2.6115 | 2.6585 | 2.6316 | 2.7473 | 2.7327 | 2.7507 | 2.6693 | 2.7330 | 2.6791 | 2.6152 | 2.6398 | |
| | | 3A | 2.6688 | 2.6147 | 2.6625 | 2.6354 | 2.7500 | 2.7350 | 2.7500 | 2.6688 | 2.7310 | 2.6769 | 2.6150 | 2.6297 | 3B |
| | | | 2.6683 | 2.6140 | 2.6630 | 2.6361 | 2.7498 | 2.7352 | 2.7507 | 2.6693 | 2.7303 | 2.6764 | 2.6152 | 2.6295 | |
| 2¾-12 or 2.750-12 | UN | 2A | 2.6940 | 2.6579 | 2.6878 | 2.6698 | 2.7481 | 2.7367 | 2.7500 | 2.6959 | 2.7401 | 2.7040 | 2.6600 | 2.6780 | 2B |
| | | | 2.6936 | 2.6573 | 2.6882 | 2.6704 | 2.7479 | 2.7369 | 2.7506 | 2.6963 | 2.7395 | 2.7036 | 2.6602 | 2.6778 | |
| | | 3A | 2.6959 | 2.6598 | 2.6913 | 2.6733 | 2.7500 | 2.7386 | 2.7500 | 2.6959 | 2.7380 | 2.7019 | 2.6600 | 2.6698 | 3B |
| | | | 2.6955 | 2.6592 | 2.6917 | 2.6739 | 2.7498 | 2.7388 | 2.7506 | 2.6963 | 2.7374 | 2.7015 | 2.6602 | 2.6696 | |
| 2¾-16 or 2.750-16 | UN | 2A | 2.7077 | 2.6806 | 2.7022 | 2.6887 | 2.7483 | 2.7389 | 2.7500 | 2.7094 | 2.7137 | 2.7166 | 2.6820 | 2.6960 | 2B |
| | | | 2.7073 | 2.6800 | 2.7026 | 2.6893 | 2.7481 | 2.7391 | 2.7506 | 2.7098 | 2.7431 | 2.7162 | 2.6822 | 2.6958 | |
| | | 3A | 2.7094 | 2.6823 | 2.7053 | 2.6918 | 2.7500 | 2.7406 | 2.7500 | 2.7094 | 2.7419 | 2.7148 | 2.6820 | 2.6908 | 3B |
| | | | 2.7090 | 2.6817 | 2.7057 | 2.6924 | 2.7498 | 2.7408 | 2.7506 | 2.7098 | 2.7413 | 2.7144 | 2.6822 | 2.6906 | |
| 2¾-20 or 2.750-20 | UN | 2A | 2.7160 | 2.6943 | 2.7109 | 2.7001 | 2.7485 | 2.7404 | 2.7500 | 2.7175 | 2.7458 | 2.7241 | 2.6960 | 2.7070 | 2B |
| | | | 2.7156 | 2.6938 | 2.7113 | 2.7006 | 2.7483 | 2.7406 | 2.7505 | 2.7179 | 2.7453 | 2.7237 | 2.6962 | 2.7068 | |
| | | 3A | 2.7175 | 2.6958 | 2.7137 | 2.7029 | 2.7500 | 2.7419 | 2.7500 | 2.7175 | 2.7442 | 2.7225 | 2.6960 | 2.7037 | 3B |
| | | | 2.7171 | 2.6953 | 2.7141 | 2.7034 | 2.7498 | 2.7421 | 2.7505 | 2.7179 | 2.7437 | 2.7221 | 2.6962 | 2.7035 | |
| 2⅞-6 or 2.875-6 | UN | 2A | 2.7639 | 2.6917 | 2.7547 | 2.7186 | 2.8722 | 2.8540 | 2.8750 | 2.7667 | 2.8509 | 2.7787 | 2.6950 | 2.7250 | 2B |
| | | | 2.7634 | 2.6909 | 2.7552 | 2.7194 | 2.8720 | 2.8542 | 2.8758 | 2.7672 | 2.8501 | 2.7782 | 2.6952 | 2.7248 | |
| | | 3A | 2.7667 | 2.6945 | 2.7598 | 2.7237 | 2.8750 | 2.8568 | 2.8750 | 2.7667 | 2.8479 | 2.7757 | 2.6950 | 2.7146 | 3B |
| | | | 2.7662 | 2.6937 | 2.7603 | 2.7245 | 2.8748 | 2.8570 | 2.8758 | 2.7672 | 2.8471 | 2.7752 | 2.6952 | 2.7144 | |
| 2⅞-8 or 2.875-8 | UN | 2A | 2.7913 | 2.7372 | 2.7829 | 2.7558 | 2.8725 | 2.8575 | 2.8750 | 2.7938 | 2.8589 | 2.8048 | 2.7400 | 2.7650 | 2B |
| | | | 2.7908 | 2.7365 | 2.7834 | 2.7565 | 2.8723 | 2.8577 | 2.8757 | 2.7943 | 2.8582 | 2.8043 | 2.7402 | 2.7648 | |
| | | 3A | 2.7938 | 2.7397 | 2.7875 | 2.7604 | 2.8750 | 2.8600 | 2.8750 | 2.7938 | 2.8561 | 2.8020 | 2.7400 | 2.7547 | 3B |
| | | | 2.7933 | 2.7390 | 2.7880 | 2.7611 | 2.8748 | 2.8602 | 2.8757 | 2.7943 | 2.8554 | 2.8015 | 2.7402 | 2.7545 | |
| 2⅞-12 or 2.875-12 | UN | 2A | 2.8190 | 2.7829 | 2.8127 | 2.7947 | 2.8731 | 2.8617 | 2.8750 | 2.8209 | 2.8652 | 2.8291 | 2.7850 | 2.8030 | 2B |
| | | | 2.8186 | 2.7823 | 2.8131 | 2.7953 | 2.8729 | 2.8619 | 2.8756 | 2.8213 | 2.8646 | 2.8287 | 2.7852 | 2.8028 | |
| | | 3A | 2.8209 | 2.7848 | 2.8162 | 2.7982 | 2.8750 | 2.8636 | 2.8750 | 2.8209 | 2.8632 | 2.8271 | 2.7850 | 2.7948 | 3B |
| | | | 2.8205 | 2.8742 | 2.8166 | 2.7988 | 2.8748 | 2.8638 | 2.8756 | 2.8213 | 2.8626 | 2.8267 | 2.7852 | 2.7946 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 2⅞-16 or 2.875-16 | UN | 2A | 2.8327 | 2.8056 | 2.8271 | 2.8136 | 2.8733 | 2.8639 | 2.8750 | 2.8344 | 2.8688 | 2.8417 | 2.8070 | 2.8210 | 2B |
| | | | 2.8323 | 2.8050 | 2.8275 | 2.8142 | 2.8731 | 2.8641 | 2.8756 | 2.8348 | 2.8682 | 2.8413 | 2.8072 | 2.8208 | |
| | | 3A | 2.8344 | 2.8073 | 2.8302 | 2.8167 | 2.8750 | 2.8656 | 2.8750 | 2.8344 | 2.8670 | 2.8399 | 2.8070 | 2.8158 | 3B |
| | | | 2.8340 | 2.8067 | 2.8306 | 2.8173 | 2.8748 | 2.8658 | 2.8756 | 2.8348 | 2.8664 | 2.8395 | 2.8072 | 2.8156 | |
| 2⅞-20 or 2.875-20 | UN | 2A | 2.8409 | 2.8192 | 2.8357 | 2.8249 | 2.8734 | 2.8653 | 2.8750 | 2.8425 | 2.8710 | 2.8493 | 2.8210 | 2.8320 | 2B |
| | | | 2.8405 | 2.8187 | 2.8361 | 2.8254 | 2.8732 | 2.8655 | 2.8755 | 2.8429 | 2.8705 | 2.8489 | 2.8212 | 2.8318 | |
| | | 3A | 2.8425 | 2.8208 | 2.8386 | 2.8278 | 2.8750 | 2.8669 | 2.8750 | 2.8425 | 2.8693 | 2.8476 | 2.8210 | 2.8287 | 3B |
| | | | 2.8421 | 2.8203 | 2.8390 | 2.8283 | 2.8748 | 2.8671 | 2.8755 | 2.8429 | 2.8688 | 2.8472 | 2.8212 | 2.8285 | |
| 3-4 or 3.000-4 | UNC | 1A | 2.8344 | 2.7261 | 2.8183 | 2.7642 | 2.9968 | 2.9611 | 3.0000 | 2.8376 | 2.9668 | 2.8585 | 2.7290 | 2.7670 | 1B |
| | | | 2.8339 | 2.7252 | 2.8188 | 2.7651 | 2.9966 | 2.9613 | 3.0009 | 2.8381 | 2.9659 | 2.8580 | 2.7292 | 2.7668 | |
| | | 2A | 2.8344 | 2.7261 | 2.8237 | 2.7696 | 2.9968 | 2.9730 | 3.0000 | 2.8376 | 2.9598 | 2.8515 | 2.7290 | 2.7670 | 2B |
| | | | 2.8339 | 2.7252 | 2.8242 | 2.7705 | 2.9966 | 2.9732 | 3.0009 | 2.8381 | 2.9589 | 2.8510 | 2.7292 | 2.7668 | |
| | | 3A | 2.8376 | 2.7293 | 2.8296 | 2.7755 | 3.0000 | 2.9762 | 3.0000 | 2.8376 | 2.9563 | 2.8480 | 2.7290 | 2.7594 | 3B |
| | | | 2.8371 | 2.7284 | 2.8301 | 2.7764 | 2.9998 | 2.9764 | 3.0009 | 2.8381 | 2.9554 | 2.8475 | 2.7292 | 2.7592 | |
| 3-6 or 3.000-6 | UN | 2A | 2.8889 | 2.8167 | 2.8796 | 2.8435 | 2.9972 | 2.9790 | 3.0000 | 2.8917 | 2.9760 | 2.9038 | 2.8200 | 2.8500 | 2B |
| | | | 2.8884 | 2.8159 | 2.8801 | 2.8443 | 2.9970 | 2.9792 | 3.0008 | 2.8922 | 2.9752 | 2.9033 | 2.8202 | 2.8498 | |
| | | 3A | 2.8917 | 2.8195 | 2.8847 | 2.8486 | 3.0000 | 2.9818 | 3.0000 | 2.8917 | 2.9730 | 2.9008 | 2.8200 | 2.8396 | 3B |
| | | | 2.8912 | 2.8187 | 2.8852 | 2.8494 | 2.9998 | 2.9820 | 3.0008 | 2.8922 | 2.9722 | 2.9003 | 2.8202 | 2.8394 | |
| 3-8 or 3.000-8 | UN | 2A | 2.9162 | 2.8621 | 2.9077 | 2.8806 | 2.9974 | 2.9824 | 3.0000 | 2.9188 | 2.9840 | 2.9299 | 2.8650 | 2.8900 | 2B |
| | | | 2.9157 | 2.8614 | 2.9082 | 2.8813 | 2.9972 | 2.9826 | 3.0007 | 2.9193 | 2.9833 | 2.9294 | 2.8652 | 2.8898 | |
| | | 3A | 2.9188 | 2.8647 | 2.9124 | 2.8853 | 3.0000 | 2.9850 | 3.0000 | 2.9188 | 2.9812 | 2.9271 | 2.8650 | 2.8797 | 3B |
| | | | 2.9183 | 2.8640 | 2.9129 | 2.8860 | 2.9998 | 2.9852 | 3.0007 | 2.9193 | 2.9805 | 2.9266 | 2.8652 | 2.8795 | |
| 3-12 or 3.000-12 | UN | 2A | 2.9440 | 2.9079 | 2.9377 | 2.9197 | 2.9981 | 2.9867 | 3.0000 | 2.9459 | 2.9902 | 2.9541 | 2.9100 | 2.9280 | 2B |
| | | | 2.9436 | 2.9073 | 2.9381 | 2.9203 | 2.9979 | 2.9869 | 3.0006 | 2.9463 | 2.9896 | 2.9537 | 2.9102 | 2.9278 | |
| | | 3A | 2.9459 | 2.9098 | 2.9412 | 2.9232 | 3.0000 | 2.9886 | 3.0000 | 2.9459 | 2.9882 | 2.9521 | 2.9100 | 2.9198 | 3B |
| | | | 2.9455 | 2.9092 | 2.9416 | 2.9238 | 2.9998 | 2.9888 | 3.0006 | 2.9463 | 2.9876 | 2.9517 | 2.9102 | 2.9196 | |
| 3-16 or 3.000-16 | UN | 2A | 2.9577 | 2.9306 | 2.9521 | 2.9386 | 2.9983 | 2.9889 | 3.0000 | 2.9594 | 2.9938 | 2.9667 | 2.9320 | 2.9460 | 2B |
| | | | 2.9573 | 2.9300 | 2.9525 | 2.9392 | 2.9981 | 2.9891 | 3.0006 | 2.9598 | 2.9932 | 2.9663 | 2.9322 | 2.9458 | |
| | | 3A | 2.9594 | 2.9323 | 2.9552 | 2.9417 | 3.0000 | 2.9906 | 3.0000 | 2.9594 | 2.9920 | 2.9649 | 2.9320 | 2.9408 | 3B |
| | | | 2.9590 | 2.9317 | 2.9556 | 2.9423 | 2.9998 | 2.9908 | 3.0006 | 2.9598 | 2.9914 | 2.9645 | 2.9322 | 2.9406 | |
| 3-20 or 3.000-20 | UN | 2A | 2.9659 | 2.9442 | 2.9607 | 2.9499 | 2.9984 | 2.9903 | 3.0000 | 2.9675 | 2.9960 | 2.9743 | 2.9460 | 2.9570 | 2B |
| | | | 2.9655 | 2.9437 | 2.9611 | 2.9504 | 2.9982 | 2.9905 | 3.0005 | 2.9679 | 2.9955 | 2.9739 | 2.9462 | 2.9568 | |
| | | 3A | 2.9675 | 2.9458 | 2.9636 | 2.9528 | 3.0000 | 2.9919 | 3.0000 | 2.9675 | 2.9943 | 2.9726 | 2.9460 | 2.9537 | 3B |
| | | | 2.9671 | 2.9453 | 2.9640 | 2.9533 | 2.9998 | 2.9921 | 3.0005 | 2.9679 | 2.9938 | 2.9722 | 2.9462 | 2.9535 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 3⅛-6 or 3.125-6 | UN | 2A | 3.0139 | 2.9417 | 3.0045 | 2.9684 | 3.1222 | 3.1040 | 3.1250 | 3.0167 | 3.1011 | 3.0289 | 2.9450 | 2.9750 | 2B |
| | | | 3.0134 | 2.9409 | 3.0050 | 2.9692 | 3.1220 | 3.1042 | 3.1258 | 3.0172 | 3.1003 | 3.0284 | 2.9452 | 2.9748 | |
| | | 3A | 3.0167 | 2.9445 | 3.0097 | 2.9736 | 3.1250 | 3.1068 | 3.1250 | 3.0167 | 3.0981 | 3.0259 | 2.9450 | 2.9646 | 3B |
| | | | 3.0162 | 2.9437 | 3.0102 | 2.9744 | 3.1248 | 3.1070 | 3.1258 | 3.0172 | 3.0973 | 3.0254 | 2.9452 | 2.9644 | |
| 3⅛-8 or 3.125-8 | UN | 2A | 3.0412 | 2.9871 | 3.0326 | 3.0055 | 3.1224 | 3.1074 | 3.1250 | 3.0438 | 3.1091 | 3.0550 | 2.9900 | 3.0150 | 2B |
| | | | 3.0407 | 2.9864 | 3.0331 | 3.0062 | 3.1222 | 3.1076 | 3.1257 | 3.0443 | 3.1084 | 3.0545 | 2.9902 | 3.0148 | |
| | | 3A | 3.0438 | 2.9897 | 3.0374 | 3.0103 | 3.1250 | 3.1100 | 3.1250 | 3.0438 | 3.1063 | 3.0522 | 2.9900 | 3.0047 | 3B |
| | | | 3.0433 | 2.9890 | 3.0379 | 3.0110 | 3.1248 | 3.1102 | 3.1257 | 3.0443 | 3.1056 | 3.0517 | 2.9902 | 3.0045 | |
| 3⅛-12 or 3.125-12 | UN | 2A | 3.0690 | 3.0329 | 3.0627 | 3.0447 | 3.1231 | 3.1117 | 3.1250 | 3.0709 | 3.1152 | 3.0791 | 3.0350 | 3.0530 | 2B |
| | | | 3.0686 | 3.0323 | 3.0631 | 3.0453 | 3.1229 | 3.1119 | 3.1256 | 3.0713 | 3.1146 | 3.0787 | 3.0352 | 3.0528 | |
| | | 3A | 3.0709 | 3.0348 | 3.0662 | 3.0482 | 3.1250 | 3.1136 | 3.1250 | 3.0709 | 3.1132 | 3.0771 | 3.0350 | 3.0448 | 3B |
| | | | 3.0705 | 3.0342 | 3.0666 | 3.0488 | 3.1248 | 3.1138 | 3.1256 | 3.0713 | 3.1126 | 3.0767 | 3.0352 | 3.0446 | |
| 3⅛-16 or 3.125-16 | UN | 2A | 3.0827 | 3.0556 | 3.0771 | 3.0636 | 3.1233 | 3.1139 | 3.1250 | 3.0844 | 3.1188 | 3.0917 | 3.0570 | 3.0710 | 2B |
| | | | 3.0823 | 3.0550 | 3.0775 | 3.0642 | 3.1231 | 3.1141 | 3.1256 | 3.0848 | 3.1182 | 3.0913 | 3.0572 | 3.0708 | |
| | | 3A | 3.0844 | 3.0573 | 3.0802 | 3.0667 | 3.1250 | 3.1156 | 3.1250 | 3.0844 | 3.1170 | 3.0899 | 3.0570 | 3.0658 | 3B |
| | | | 3.0840 | 3.0567 | 3.0806 | 3.0673 | 3.1248 | 3.1158 | 3.1256 | 3.0848 | 3.1164 | 3.0895 | 3.0572 | 3.0656 | |
| 3¼-4 or 3.250-4 | UNC | 1A | 3.0843 | 2.9760 | 3.0680 | 3.0139 | 3.2467 | 3.2110 | 3.2500 | 3.0876 | 3.2171 | 3.1088 | 2.9790 | 3.0170 | 1B |
| | | | 3.0838 | 2.9751 | 3.0685 | 3.0148 | 3.2465 | 3.2112 | 3.2509 | 3.0881 | 3.2162 | 3.1083 | 2.9792 | 3.0168 | |
| | | 2A | 3.0843 | 2.9760 | 3.0734 | 3.0193 | 3.2467 | 3.2229 | 3.2500 | 3.0876 | 3.2100 | 3.1017 | 2.9790 | 3.0170 | 2B |
| | | | 3.0838 | 2.9751 | 3.0739 | 3.0202 | 3.2465 | 3.2231 | 3.2509 | 3.0881 | 3.2091 | 3.1012 | 2.9792 | 3.0168 | |
| | | 3A | 3.0876 | 2.9793 | 3.0794 | 3.0253 | 3.2500 | 3.2262 | 3.2500 | 3.0876 | 3.2065 | 3.0982 | 2.9790 | 3.0094 | 3B |
| | | | 3.0871 | 2.9784 | 3.0799 | 3.0262 | 3.2498 | 3.2264 | 3.2509 | 3.0881 | 3.2056 | 3.0977 | 2.9792 | 3.0092 | |
| 3¼-6 or 3.250-6 | UN | 2A | 3.1389 | 3.0667 | 3.1294 | 3.0933 | 3.2472 | 3.2290 | 3.2500 | 3.1417 | 3.2262 | 3.1540 | 3.0700 | 3.1000 | 2B |
| | | | 3.1384 | 3.0659 | 3.1299 | 3.0941 | 3.2470 | 3.2292 | 3.2508 | 3.1422 | 3.2254 | 3.1535 | 3.0702 | 3.0998 | |
| | | 3A | 3.1417 | 3.0695 | 3.1346 | 3.0985 | 3.2500 | 3.2318 | 3.2500 | 3.1417 | 3.2231 | 3.1509 | 3.0700 | 3.0896 | 3B |
| | | | 3.1412 | 3.0687 | 3.1351 | 3.0993 | 3.2498 | 3.2320 | 3.2508 | 3.1422 | 3.2223 | 3.1504 | 3.0702 | 3.0894 | |
| 3¼-8 or 3.250-8 | UN | 2A | 3.1662 | 3.1121 | 3.1575 | 3.1304 | 3.2474 | 3.2324 | 3.2500 | 3.1688 | 3.2342 | 3.1801 | 3.1150 | 3.1400 | 2B |
| | | | 3.1657 | 3.1114 | 3.1580 | 3.1311 | 3.2472 | 3.2326 | 3.2507 | 3.1693 | 3.2335 | 3.1796 | 3.1152 | 3.1398 | |
| | | 3A | 3.1688 | 3.1147 | 3.1623 | 3.1352 | 3.2500 | 3.2350 | 3.2500 | 3.1688 | 3.2314 | 3.1773 | 3.1150 | 3.1297 | 3B |
| | | | 3.1683 | 3.1140 | 3.1628 | 3.1359 | 3.2498 | 3.2352 | 3.2507 | 3.1693 | 3.2307 | 3.1768 | 3.1152 | 3.1295 | |
| 3¼-12 or 3.250-12 | UN | 2A | 3.1940 | 3.1579 | 3.1877 | 3.1697 | 3.2481 | 3.2367 | 3.2500 | 3.1959 | 3.2402 | 3.2041 | 3.1600 | 3.1780 | 2B |
| | | | 3.1936 | 3.1573 | 3.1881 | 3.1703 | 3.2479 | 3.2369 | 3.2506 | 3.1963 | 3.2396 | 3.2037 | 3.1602 | 3.1778 | |
| | | 3A | 3.1959 | 3.1598 | 3.1912 | 3.1732 | 3.2500 | 3.2386 | 3.2500 | 3.1959 | 3.2382 | 3.2021 | 3.1600 | 3.1698 | 3B |
| | | | 3.1955 | 3.1592 | 3.1916 | 3.1738 | 3.2498 | 3.2388 | 3.2506 | 3.1963 | 3.2376 | 3.2017 | 3.1602 | 3.1696 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 3¼-16 or 3.250-16 | UN | 2A | 3.2077 | 3.1806 | 3.2021 | 3.1886 | 3.2483 | 3.2389 | 3.2500 | 3.2094 | 3.2438 | 3.2167 | 3.1820 | 3.1960 | 2B |
| | | | 3.2073 | 3.1800 | 3.2025 | 3.1892 | 3.2481 | 3.2391 | 3.2506 | 3.2098 | 3.2432 | 3.2163 | 3.1822 | 3.1958 | |
| | | 3A | 3.2094 | 3.1823 | 3.2052 | 3.1917 | 3.2500 | 3.2406 | 3.2500 | 3.2094 | 3.2420 | 3.2149 | 3.1820 | 3.1908 | 3B |
| | | | 3.2090 | 3.1817 | 3.2056 | 3.1923 | 3.2498 | 3.2408 | 3.2506 | 3.2098 | 3.2414 | 3.2145 | 3.1822 | 3.1906 | |
| 3⅜-6 or 3.375-6 | UN | 2A | 3.2638 | 3.1916 | 3.2543 | 3.2182 | 3.3721 | 3.3539 | 3.3750 | 3.2667 | 3.3513 | 3.2791 | 3.1950 | 3.2250 | 2B |
| | | | 3.2633 | 3.1908 | 3.2548 | 3.2190 | 3.3719 | 3.3541 | 3.3758 | 3.2672 | 3.3505 | 3.2786 | 3.1952 | 3.2248 | |
| | | 3A | 3.2667 | 3.1945 | 3.2595 | 3.2234 | 3.3750 | 3.3568 | 3.3750 | 3.2667 | 3.3482 | 3.2760 | 3.1950 | 3.2146 | 3B |
| | | | 3.2662 | 3.1937 | 3.2600 | 3.2242 | 3.3748 | 3.3570 | 3.3758 | 3.2672 | 3.3474 | 3.2755 | 3.1952 | 3.2144 | |
| 3⅜-8 or 3.375-8 | UN | 2A | 3.2912 | 3.2371 | 3.2824 | 3.2553 | 3.3724 | 3.3574 | 3.3750 | 3.2938 | 3.3593 | 3.3052 | 3.2400 | 3.2650 | 2B |
| | | | 3.2907 | 3.2364 | 3.2829 | 3.2560 | 3.3722 | 3.3576 | 3.3757 | 3.2943 | 3.3586 | 3.3047 | 3.2402 | 3.2648 | |
| | | 3A | 3.2938 | 3.2397 | 3.2872 | 3.2601 | 3.3750 | 3.3600 | 3.3750 | 3.2938 | 3.3564 | 3.3023 | 3.2400 | 3.2547 | 3B |
| | | | 3.2933 | 3.2390 | 3.2877 | 3.2608 | 3.3748 | 3.3602 | 3.3757 | 3.2943 | 3.3557 | 3.3018 | 3.2402 | 3.2545 | |
| 3⅜-12 or 3.375-12 | UN | 2A | 3.3190 | 3.2829 | 3.3126 | 3.2946 | 3.3731 | 3.3617 | 3.3750 | 3.3209 | 3.3654 | 3.3293 | 3.2850 | 3.3030 | 2B |
| | | | 3.3186 | 3.2823 | 3.3130 | 3.2952 | 3.3729 | 3.3619 | 3.3756 | 3.3213 | 3.3648 | 3.3289 | 3.2852 | 3.3028 | |
| | | 3A | 3.3209 | 3.2848 | 3.3161 | 3.2981 | 3.3750 | 3.3636 | 3.3750 | 3.3209 | 3.3633 | 3.3272 | 3.2850 | 3.2948 | 3B |
| | | | 3.3205 | 3.2842 | 3.3165 | 3.2987 | 3.3748 | 3.3638 | 3.3756 | 3.3213 | 3.3627 | 3.3268 | 3.2852 | 3.2946 | |
| 3⅜-16 or 3.375-16 | UN | 2A | 3.3327 | 3.3056 | 3.3269 | 3.3134 | 3.3733 | 3.3639 | 3.3750 | 3.3344 | 3.3690 | 3.3419 | 3.3070 | 3.3210 | 2B |
| | | | 3.3323 | 3.3050 | 3.3273 | 3.3140 | 3.3731 | 3.3641 | 3.3756 | 3.3348 | 3.3684 | 3.3415 | 3.3072 | 3.3208 | |
| | | 3A | 3.3344 | 3.3073 | 3.3301 | 3.3166 | 3.3750 | 3.3656 | 3.3750 | 3.3344 | 3.3671 | 3.3400 | 3.3070 | 3.3158 | 3B |
| | | | 3.3340 | 3.3067 | 3.3305 | 3.3172 | 3.3748 | 3.3658 | 3.3756 | 3.3348 | 3.3665 | 3.3396 | 3.3072 | 3.3156 | |
| 3½-4 or 3.500-4 | UNC | 1A | 3.3343 | 3.2260 | 3.3177 | 3.2636 | 3.4967 | 3.4610 | 3.5000 | 3.3376 | 3.4674 | 3.3591 | 3.2290 | 3.2670 | 1B |
| | | | 3.3338 | 3.2251 | 3.3182 | 3.2645 | 3.4965 | 3.4612 | 3.5009 | 3.3381 | 3.4665 | 3.3586 | 3.2292 | 3.2668 | |
| | | 2A | 3.3343 | 3.2260 | 3.3233 | 3.2692 | 3.4967 | 3.4729 | 3.5000 | 3.3376 | 3.4602 | 3.3519 | 3.2290 | 3.2670 | 2B |
| | | | 3.3338 | 3.2251 | 3.3238 | 3.2701 | 3.4965 | 3.4731 | 3.5009 | 3.3381 | 3.4593 | 3.3514 | 3.2292 | 3.2668 | |
| | | 3A | 3.3376 | 3.2293 | 3.3293 | 3.2752 | 3.5000 | 3.4762 | 3.5000 | 3.3376 | 3.4567 | 3.3484 | 3.2290 | 3.2594 | 3B |
| | | | 3.3371 | 3.2284 | 3.3298 | 3.2761 | 3.4998 | 3.4764 | 3.5009 | 3.3381 | 3.4558 | 3.3479 | 3.2292 | 3.2592 | |
| 3½-6 or 3.500-6 | UN | 2A | 3.3888 | 3.3166 | 3.3792 | 3.3431 | 3.4971 | 3.4789 | 3.5000 | 3.3917 | 3.4764 | 3.4042 | 3.3200 | 3.3500 | 2B |
| | | | 3.3883 | 3.3158 | 3.3797 | 3.3439 | 3.4969 | 3.4791 | 3.5008 | 3.3922 | 3.4756 | 3.4037 | 3.3202 | 3.3498 | |
| | | 3A | 3.3917 | 3.3195 | 3.3845 | 3.3484 | 3.5000 | 3.4818 | 3.5000 | 3.3917 | 3.4733 | 3.4011 | 3.3200 | 3.3396 | 3B |
| | | | 3.3912 | 3.3187 | 3.3850 | 3.3492 | 3.4998 | 3.4820 | 3.5008 | 3.3922 | 3.4725 | 3.4006 | 3.3202 | 3.3394 | |
| 3½-8 or 3.500-8 | UN | 2A | 3.4162 | 3.3621 | 3.4074 | 3.3803 | 3.4974 | 3.4824 | 3.5000 | 3.4188 | 3.4844 | 3.4303 | 3.3650 | 3.3900 | 2B |
| | | | 3.4157 | 3.3614 | 3.4079 | 3.3810 | 3.4972 | 3.4826 | 3.5007 | 3.4193 | 3.4837 | 3.4298 | 3.3652 | 3.3898 | |
| | | 3A | 3.4188 | 3.3647 | 3.4122 | 3.3851 | 3.5000 | 3.4850 | 3.5000 | 3.4188 | 3.4815 | 3.4274 | 3.3650 | 3.3797 | 3B |
| | | | 3.4183 | 3.3640 | 3.4127 | 3.3858 | 3.4998 | 3.4852 | 3.5007 | 3.4193 | 3.4808 | 3.4269 | 3.3652 | 3.3795 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 3½-12 or 3.500-12 | UN | 2A | 3.4440 | 3.4079 | 3.4376 | 3.4196 | 3.4981 | 3.4867 | 3.5000 | 3.4459 | 3.4904 | 3.4543 | 3.4100 | 3.4280 | 2B |
| | | | 3.4436 | 3.4073 | 3.4380 | 3.4202 | 3.4979 | 3.4869 | 3.5006 | 3.4463 | 3.4898 | 3.4539 | 3.4102 | 3.4278 | |
| | | 3A | 3.4459 | 3.4098 | 3.4411 | 3.4231 | 3.5000 | 3.4886 | 3.5000 | 3.4459 | 3.4883 | 3.4522 | 3.4100 | 3.4198 | 3B |
| | | | 3.4455 | 3.4092 | 3.4415 | 3.4237 | 3.4998 | 3.4888 | 3.5006 | 3.4463 | 3.4877 | 3.4518 | 3.4102 | 3.4196 | |
| 3½-16 or 3.500-16 | UN | 2A | 3.4577 | 3.4306 | 3.4519 | 3.4384 | 3.4983 | 3.4889 | 3.5000 | 3.4594 | 3.4940 | 3.4669 | 3.4320 | 3.4460 | 2B |
| | | | 3.4573 | 3.4300 | 3.4523 | 3.4390 | 3.4981 | 3.4891 | 3.5006 | 3.4598 | 3.4934 | 3.4665 | 3.4322 | 3.4458 | |
| | | 3A | 3.4594 | 3.4323 | 3.4551 | 3.4416 | 3.5000 | 3.4906 | 3.5000 | 3.4594 | 3.4921 | 3.4650 | 3.4320 | 3.4408 | 3B |
| | | | 3.4590 | 3.4317 | 3.4555 | 3.4422 | 3.4998 | 3.4908 | 3.5006 | 3.4598 | 3.4915 | 3.4646 | 3.4322 | 3.4406 | |
| 3⅝-6 or 3.625-6 | UN | 2A | 3.5138 | 3.4416 | 3.5041 | 3.4680 | 3.6221 | 3.6039 | 3.6250 | 3.5167 | 3.6015 | 3.5293 | 3.4450 | 3.4750 | 2B |
| | | | 3.5133 | 3.4408 | 3.5046 | 3.4688 | 3.6219 | 3.6041 | 3.6258 | 3.5172 | 3.6007 | 3.5288 | 3.4452 | 3.4748 | |
| | | 3A | 3.5167 | 3.4445 | 3.5094 | 3.4733 | 3.6250 | 3.6068 | 3.6250 | 3.5167 | 3.5984 | 3.5262 | 3.4450 | 3.4646 | 3B |
| | | | 3.5162 | 3.4437 | 3.5099 | 3.4741 | 3.6248 | 3.6070 | 3.6258 | 3.5172 | 3.5976 | 3.5257 | 3.4452 | 3.4644 | |
| 3⅝-8 or 3.625-8 | UN | 2A | 3.5411 | 3.4870 | 3.5322 | 3.5051 | 3.6223 | 3.6073 | 3.6250 | 3.5438 | 3.6095 | 3.5554 | 3.4900 | 3.5150 | 2B |
| | | | 3.5406 | 3.4863 | 3.5327 | 3.5058 | 3.6221 | 3.6075 | 3.6257 | 3.5443 | 3.6088 | 3.5549 | 3.4902 | 3.5148 | |
| | | 3A | 3.5438 | 3.4897 | 3.5371 | 3.5100 | 3.6250 | 3.6100 | 3.6250 | 3.5438 | 3.6066 | 3.5525 | 3.4900 | 3.5047 | 3B |
| | | | 3.5433 | 3.4890 | 3.5376 | 3.5107 | 3.6248 | 3.6102 | 3.6257 | 3.5443 | 3.6059 | 3.5520 | 3.4902 | 3.5045 | |
| 3⅝-12 or 3.625-12 | UN | 2A | 3.5690 | 3.5329 | 3.5626 | 3.5446 | 3.6231 | 3.6117 | 3.6250 | 3.5709 | 3.6154 | 3.5793 | 3.5350 | 3.5530 | 2B |
| | | | 3.5686 | 3.5323 | 3.5630 | 3.5452 | 3.6229 | 3.6119 | 3.6256 | 3.5713 | 3.6148 | 3.5789 | 3.5352 | 3.5528 | |
| | | 3A | 3.5709 | 3.5348 | 3.5661 | 3.5481 | 3.6250 | 3.6136 | 3.6250 | 3.5709 | 3.6133 | 3.5772 | 3.5350 | 3.5448 | 3B |
| | | | 3.5705 | 3.5342 | 3.5665 | 3.5487 | 3.6248 | 3.6138 | 3.6256 | 3.5713 | 3.6127 | 3.5768 | 3.5352 | 3.5446 | |
| 3⅝-16 or 3.625-16 | UN | 2A | 3.5827 | 3.5556 | 3.5769 | 3.5634 | 3.6233 | 3.6139 | 3.6250 | 3.5844 | 3.6190 | 3.5919 | 3.5570 | 3.5710 | 2B |
| | | | 3.5823 | 3.5550 | 3.5773 | 3.5640 | 3.6231 | 3.6141 | 3.6256 | 3.5848 | 3.6184 | 3.5915 | 3.5572 | 3.5708 | |
| | | 3A | 3.5844 | 3.5573 | 3.5801 | 3.5666 | 3.6250 | 3.6156 | 3.6250 | 3.5844 | 3.6171 | 3.5900 | 3.5570 | 3.5658 | 3B |
| | | | 3.5840 | 3.5567 | 3.5805 | 3.5672 | 3.6248 | 3.6158 | 3.6256 | 3.5848 | 3.6165 | 3.5896 | 3.5572 | 3.5656 | |
| 3¾-4 or 3.750-4 | UNC | 1A | 3.5842 | 3.4759 | 3.5674 | 3.5133 | 3.7466 | 3.7109 | 3.7500 | 3.5876 | 3.7177 | 3.6094 | 3.4790 | 3.5170 | 1B |
| | | | 3.5837 | 3.4750 | 3.5679 | 3.5142 | 3.7464 | 3.7111 | 3.7509 | 3.5881 | 3.7168 | 3.6089 | 3.4792 | 3.5168 | |
| | | 2A | 3.5842 | 3.4759 | 3.5730 | 3.5189 | 3.7466 | 3.7228 | 3.7500 | 3.5876 | 3.7104 | 3.6021 | 3.4790 | 3.5170 | 2B |
| | | | 3.5837 | 3.4750 | 3.5735 | 3.5198 | 3.7464 | 3.7230 | 3.7509 | 3.5881 | 3.7095 | 3.6016 | 3.4792 | 3.5168 | |
| | | 3A | 3.5876 | 3.4793 | 3.5792 | 3.5251 | 3.7500 | 3.7262 | 3.7500 | 3.5876 | 3.7068 | 3.5985 | 3.4790 | 3.5094 | 3B |
| | | | 3.5871 | 3.4784 | 3.5797 | 3.5260 | 3.7498 | 3.7264 | 3.7509 | 3.5881 | 3.7059 | 3.5980 | 3.4792 | 3.5092 | |
| 3¾-6 or 3.750-6 | UN | 2A | 3.6388 | 3.5666 | 3.6290 | 3.5929 | 3.7471 | 3.7289 | 3.7500 | 3.6417 | 3.7266 | 3.6544 | 3.5700 | 3.6000 | 2B |
| | | | 3.6383 | 3.5658 | 3.6295 | 3.5937 | 3.7469 | 3.7291 | 3.7508 | 3.6422 | 3.7258 | 3.6539 | 3.5702 | 3.5998 | |
| | | 3A | 3.6417 | 3.5695 | 3.6344 | 3.5983 | 3.7500 | 3.7318 | 3.7500 | 3.6417 | 3.7234 | 3.6512 | 3.5700 | 3.5896 | 3B |
| | | | 3.6412 | 3.5687 | 3.6349 | 3.5991 | 3.7498 | 3.7320 | 3.7508 | 3.6422 | 3.7226 | 3.6507 | 3.5702 | 3.5894 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 3¾-8 or 3.750-8 | UN | 2A | 3.6661 | 3.6120 | 3.6571 | 3.6300 | 3.7473 | 3.7323 | 3.7500 | 3.6688 | 3.7346 | 3.6805 | 3.6150 | 3.6400 | 2B |
| | | | 3.6656 | 3.6113 | 3.6576 | 3.6307 | 3.7471 | 3.7325 | 3.7507 | 3.6693 | 3.7339 | 3.6800 | 3.6152 | 3.6398 | |
| | | 3A | 3.6688 | 3.6147 | 3.6621 | 3.6350 | 3.7500 | 3.7350 | 3.7500 | 3.6688 | 3.7317 | 3.6776 | 3.6150 | 3.6297 | 3B |
| | | | 3.6683 | 3.6140 | 3.6626 | 3.6357 | 3.7498 | 3.7352 | 3.7507 | 3.6693 | 3.7310 | 3.6771 | 3.6152 | 3.6295 | |
| 3¾-12 or 3.750-12 | UN | 2A | 3.6940 | 3.6579 | 3.6876 | 3.6696 | 3.7481 | 3.7367 | 3.7500 | 3.6959 | 3.7404 | 3.7043 | 3.6600 | 3.6780 | 2B |
| | | | 3.6936 | 3.6573 | 3.6880 | 3.6702 | 3.7479 | 3.7369 | 3.7506 | 3.6963 | 3.7398 | 3.7039 | 3.6602 | 3.6778 | |
| | | 3A | 3.6959 | 3.6598 | 3.6911 | 3.6731 | 3.7500 | 3.7386 | 3.7500 | 3.6959 | 3.7383 | 3.7022 | 3.6600 | 3.6698 | 3B |
| | | | 3.6955 | 3.6592 | 3.6915 | 3.6737 | 3.7498 | 3.7388 | 3.7506 | 3.6963 | 3.7377 | 3.7018 | 3.6602 | 3.6696 | |
| 3¾-16 or 3.750-16 | UN | 2A | 3.7077 | 3.6806 | 3.7019 | 3.6884 | 3.7483 | 3.7389 | 3.7500 | 3.7094 | 3.7440 | 3.7169 | 3.6820 | 3.6960 | 2B |
| | | | 3.7073 | 3.6800 | 3.7023 | 3.6890 | 3.7481 | 3.7391 | 3.7506 | 3.7098 | 3.7434 | 3.7165 | 3.6822 | 3.6958 | |
| | | 3A | 3.7094 | 3.6823 | 3.7051 | 3.6916 | 3.7500 | 3.7406 | 3.7500 | 3.7094 | 3.7421 | 3.7150 | 3.6820 | 3.6908 | 3B |
| | | | 3.7090 | 3.6817 | 3.7055 | 3.6922 | 3.7498 | 3.7408 | 3.7506 | 3.7098 | 3.7415 | 3.7146 | 3.6822 | 3.6906 | |
| 3⅞-6 or 3.875-6 | UN | 2A | 3.7637 | 3.6915 | 3.7538 | 3.7177 | 3.8720 | 3.8538 | 3.8750 | 3.7667 | 3.8517 | 3.7795 | 3.6950 | 3.7250 | 2B |
| | | | 3.7632 | 3.6907 | 3.7543 | 3.7185 | 3.8718 | 3.8540 | 3.8758 | 3.7672 | 3.8509 | 3.7790 | 3.6952 | 3.7248 | |
| | | 3A | 3.7667 | 3.6945 | 3.7593 | 3.7232 | 3.8750 | 3.8568 | 3.8750 | 3.7667 | 3.8485 | 3.7763 | 3.6950 | 3.7146 | 3B |
| | | | 3.7662 | 3.6937 | 3.7598 | 3.7240 | 3.8748 | 3.8570 | 3.8758 | 3.7672 | 3.8477 | 3.7758 | 3.6952 | 3.7144 | |
| 3⅞-8 or 3.875-8 | UN | 2A | 3.7911 | 3.7370 | 3.7820 | 3.7549 | 3.8723 | 3.8573 | 3.8750 | 3.7938 | 3.8597 | 3.8056 | 3.7400 | 3.7650 | 2B |
| | | | 3.7906 | 3.7363 | 3.7825 | 3.7556 | 3.8721 | 3.8575 | 3.8757 | 3.7943 | 3.8590 | 3.8051 | 3.7402 | 3.7648 | |
| | | 3A | 3.7938 | 3.7397 | 3.7870 | 3.7599 | 3.8750 | 3.8600 | 3.8750 | 3.7938 | 3.8567 | 3.8026 | 3.7400 | 3.7547 | 3B |
| | | | 3.7933 | 3.7390 | 3.7875 | 3.7606 | 3.8748 | 3.8602 | 3.8757 | 3.7943 | 3.8560 | 3.8021 | 3.7402 | 3.7545 | |
| 3⅞-12 or 3.875-12 | UN | 2A | 3.8189 | 3.7828 | 3.8124 | 3.7944 | 3.8730 | 3.8616 | 3.8750 | 3.8209 | 3.8655 | 3.8294 | 3.7850 | 3.8030 | 2B |
| | | | 3.8185 | 3.7822 | 3.8128 | 3.7950 | 3.8728 | 3.8618 | 3.8756 | 3.8213 | 3.8649 | 3.8290 | 3.7852 | 3.8028 | |
| | | 3A | 3.8209 | 3.7848 | 3.8160 | 3.7980 | 3.8750 | 3.8636 | 3.8750 | 3.8209 | 3.8634 | 3.8273 | 3.7850 | 3.7948 | 3B |
| | | | 3.8205 | 3.7842 | 3.8164 | 3.7986 | 3.8748 | 3.8638 | 3.8756 | 3.8213 | 3.8628 | 3.8269 | 3.7852 | 3.7946 | |
| 3⅞-16 or 3.875-16 | UN | 2A | 3.8326 | 3.8055 | 3.8267 | 3.8132 | 3.8732 | 3.8638 | 3.8750 | 3.8344 | 3.8691 | 3.8420 | 3.8070 | 3.8210 | 2B |
| | | | 3.8322 | 3.8049 | 3.8271 | 3.8138 | 3.8730 | 3.8640 | 3.8756 | 3.8348 | 3.8685 | 3.8416 | 3.8072 | 3.8208 | |
| | | 3A | 3.8344 | 3.8073 | 3.8300 | 3.8165 | 3.8750 | 3.8656 | 3.8750 | 3.8344 | 3.8672 | 3.8401 | 3.8070 | 3.8158 | 3B |
| | | | 3.8340 | 3.8067 | 3.8304 | 3.8171 | 3.8748 | 3.8658 | 3.8756 | 3.8348 | 3.8666 | 3.8397 | 3.8072 | 3.8156 | |
| 4-4 or 4.000-4 | UNC | 1A | 3.8342 | 3.7259 | 3.8172 | 3.7631 | 3.9966 | 3.9609 | 4.0000 | 3.8376 | 3.9680 | 3.8597 | 3.7290 | 3.7670 | 1B |
| | | | 3.8337 | 3.7250 | 3.8177 | 3.7640 | 3.9964 | 3.9611 | 4.0009 | 3.8381 | 3.9671 | 3.8592 | 3.7292 | 3.7668 | |
| | | 2A | 3.8342 | 3.7259 | 3.8229 | 3.7688 | 3.9966 | 3.9728 | 4.0000 | 3.8376 | 3.9606 | 3.8523 | 3.7290 | 3.7670 | 2B |
| | | | 3.8337 | 3.7250 | 3.8234 | 3.7697 | 3.9964 | 3.9730 | 4.0009 | 3.8381 | 3.9597 | 3.8518 | 3.7292 | 3.7668 | |
| | | 3A | 3.8376 | 3.7293 | 3.8291 | 3.7750 | 4.0000 | 3.9762 | 4.0000 | 3.8376 | 3.9570 | 3.8487 | 3.7290 | 3.7594 | 3B |
| | | | 3.8371 | 3.7284 | 3.8296 | 3.7759 | 3.9998 | 3.9764 | 4.0009 | 3.8381 | 3.9561 | 3.8482 | 3.7292 | 3.7592 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 4-6 or 4.000-6 | UN | 2A | 3.8887 | 3.8165 | 3.8788 | 3.8427 | 3.9970 | 3.9788 | 4.0000 | 3.8917 | 3.9768 | 3.9045 | 3.8200 | 3.8500 | 2B |
| | | | 3.8882 | 3.8157 | 3.8793 | 3.8435 | 3.9968 | 3.9790 | 4.0008 | 3.8922 | 3.9760 | 3.9041 | 3.8202 | 3.8498 | |
| | | 3A | 3.8917 | 3.8195 | 3.8843 | 3.8482 | 4.0000 | 3.9818 | 4.0000 | 3.8917 | 3.9736 | 3.9014 | 3.8200 | 3.8396 | 3B |
| | | | 3.8912 | 3.8187 | 3.8848 | 3.8490 | 3.9998 | 3.9820 | 4.0008 | 3.8922 | 3.9728 | 3.9009 | 3.8202 | 3.8394 | |
| 4-8 or 4.000-8 | UN | 2A | 3.9161 | 3.8620 | 3.9070 | 3.8799 | 3.9973 | 3.9823 | 4.0000 | 3.9188 | 3.9848 | 3.9307 | 3.8650 | 3.8900 | 2B |
| | | | 3.9156 | 3.8613 | 3.9075 | 3.8806 | 3.9971 | 3.9825 | 4.0007 | 3.9193 | 3.9841 | 3.9302 | 3.8652 | 3.8898 | |
| | | 3A | 3.9188 | 3.8647 | 3.9120 | 3.8849 | 4.0000 | 3.9850 | 4.0000 | 3.9188 | 3.9818 | 3.9277 | 3.8650 | 3.8797 | 3B |
| | | | 3.9183 | 3.8640 | 3.9125 | 3.8856 | 3.9998 | 3.9852 | 4.0007 | 3.9193 | 3.9811 | 3.9272 | 3.8652 | 3.8795 | |
| 4-12 or 4.000-12 | UN | 2A | 3.9439 | 3.9078 | 3.9374 | 3.9194 | 3.9980 | 3.9866 | 4.0000 | 3.9459 | 3.9905 | 3.9544 | 3.9100 | 3.9280 | 2B |
| | | | 3.9435 | 3.9072 | 3.9378 | 3.9200 | 3.9978 | 3.9868 | 4.0006 | 3.9463 | 3.9899 | 3.9540 | 3.9102 | 3.9278 | |
| | | 3A | 3.9459 | 3.9098 | 3.9410 | 3.9230 | 4.0000 | 3.9886 | 4.0000 | 3.9459 | 3.9884 | 3.9523 | 3.9100 | 3.9198 | 3B |
| | | | 3.9455 | 3.9092 | 3.9414 | 3.9236 | 3.9998 | 3.9888 | 4.0006 | 3.9463 | 3.9878 | 3.9519 | 3.9102 | 3.9196 | |
| 4-16 or 4.000-16 | UN | 2A | 3.9576 | 3.9305 | 3.9517 | 3.9382 | 3.9982 | 3.9888 | 4.0000 | 3.9594 | 3.9941 | 3.9670 | 3.9320 | 3.9460 | 2B |
| | | | 3.9572 | 3.9299 | 3.9521 | 3.9388 | 3.9980 | 3.9890 | 4.0006 | 3.9598 | 3.9935 | 3.9666 | 3.9322 | 3.9458 | |
| | | 3A | 3.9594 | 3.9323 | 3.9550 | 3.9415 | 4.0000 | 3.9906 | 4.0000 | 3.9594 | 3.9922 | 3.9651 | 3.9320 | 3.9408 | 3B |
| | | | 3.9590 | 3.9317 | 3.9554 | 3.9421 | 3.9998 | 3.9908 | 4.0006 | 3.9598 | 3.9916 | 3.9647 | 3.9322 | 3.9406 | |
| 4⅛-6 or 4.125-6 | UN | 2A | 4.0137 | 3.9415 | 4.0037 | 3.9676 | 4.1220 | 4.1038 | 4.1250 | 4.0167 | 4.1019 | 4.0297 | 3.9450 | 3.9750 | 2B |
| | | | 4.0131 | 3.9402 | 4.0043 | 3.9689 | 4.1218 | 4.1040 | 4.1263 | 4.0173 | 4.1006 | 4.0291 | 3.9452 | 3.9748 | |
| | | 3A | 4.0167 | 3.9445 | 4.0092 | 3.9731 | 4.1250 | 4.1068 | 4.1250 | 4.0167 | 4.0986 | 4.0264 | 3.9450 | 3.9646 | 3B |
| | | | 4.0161 | 3.9432 | 4.0098 | 3.9744 | 4.1248 | 4.1070 | 4.1263 | 4.0173 | 4.0973 | 4.0258 | 3.9452 | 3.9644 | |
| 4⅛-12 or 4.125-12 | UN | 2A | 4.0689 | 4.0328 | 4.0624 | 4.0444 | 4.1230 | 4.1116 | 4.1250 | 4.0709 | 4.1155 | 4.0794 | 4.0350 | 4.0530 | 2B |
| | | | 4.0683 | 4.0319 | 4.0630 | 4.0453 | 4.1228 | 4.1118 | 4.1259 | 4.0715 | 4.1146 | 4.0788 | 4.0352 | 4.0528 | |
| | | 3A | 4.0709 | 4.0348 | 4.0660 | 4.0480 | 4.1250 | 4.1136 | 4.1250 | 4.0709 | 4.1134 | 4.0773 | 4.0350 | 4.0448 | 3B |
| | | | 4.0703 | 4.0339 | 4.0666 | 4.0489 | 4.1248 | 4.1138 | 4.1259 | 4.0715 | 4.1125 | 4.0767 | 4.0352 | 4.0446 | |
| 4⅛-16 or 4.125-16 | UN | 2A | 4.0826 | 4.0555 | 4.0767 | 4.0632 | 4.1232 | 4.1138 | 4.1250 | 4.0844 | 4.1191 | 4.0920 | 4.0570 | 4.0710 | 2B |
| | | | 4.0820 | 4.0546 | 4.0773 | 4.0641 | 4.1230 | 4.1140 | 4.1259 | 4.0850 | 4.1182 | 4.0914 | 4.0572 | 4.0708 | |
| | | 3A | 4.0844 | 4.0573 | 4.0800 | 4.0665 | 4.1250 | 4.1156 | 4.1250 | 4.0844 | 4.1172 | 4.0901 | 4.0570 | 4.0658 | 3B |
| | | | 4.0838 | 4.0564 | 4.0806 | 4.0674 | 4.1248 | 4.1158 | 4.1259 | 4.0850 | 4.1163 | 4.0895 | 4.0572 | 4.0656 | |
| 4¼-4 or 4.250-4 | UN | 2A | 4.0842 | 3.9759 | 4.0727 | 4.0186 | 4.2466 | 4.2228 | 4.2500 | 4.0876 | 4.2108 | 4.1025 | 3.9790 | 4.0170 | 2B |
| | | | 4.0836 | 3.9744 | 4.0733 | 4.0201 | 4.2464 | 4.2230 | 4.2515 | 4.0882 | 4.2093 | 4.1019 | 3.9792 | 4.0168 | |
| | | 3A | 4.0876 | 3.9793 | 4.0790 | 4.0249 | 4.2500 | 4.2262 | 4.2500 | 4.0876 | 4.2071 | 4.0988 | 3.9790 | 4.0094 | 3B |
| | | | 4.0870 | 3.9778 | 4.0796 | 4.0264 | 4.2498 | 4.2264 | 4.2515 | 4.0882 | 4.2056 | 4.0982 | 3.9792 | 4.0092 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 4¼-6 or 4.250-6 | UN | 2A | 4.1387 | 4.0665 | 4.1286 | 4.0925 | 4.2470 | 4.2288 | 4.2500 | 4.1417 | 4.2270 | 4.1548 | 4.0700 | 4.1000 | 2B |
| | | | 4.1381 | 4.0652 | 4.1292 | 4.0938 | 4.2468 | 4.2290 | 4.2513 | 4.1423 | 4.2257 | 4.1542 | 4.0702 | 4.0998 | |
| | | 3A | 4.1417 | 4.0695 | 4.1342 | 4.0981 | 4.2500 | 4.2318 | 4.2500 | 4.1417 | 4.2237 | 4.1515 | 4.0700 | 4.0896 | 3B |
| | | | 4.1411 | 4.0682 | 4.1348 | 4.0994 | 4.2498 | 4.2320 | 4.2513 | 4.1423 | 4.2224 | 4.1509 | 4.0702 | 4.0894 | |
| 4¼-12 or 4.250-12 | UN | 2A | 4.1939 | 4.1578 | 4.1874 | 4.1694 | 4.2480 | 4.2366 | 4.2500 | 4.1959 | 4.2405 | 4.2044 | 4.1600 | 4.1780 | 2B |
| | | | 4.1933 | 4.1569 | 4.1880 | 4.1703 | 4.2478 | 4.2368 | 4.2509 | 4.1965 | 4.2396 | 4.2038 | 4.1602 | 4.1778 | |
| | | 3A | 4.1959 | 4.1598 | 4.1910 | 4.1730 | 4.2500 | 4.2386 | 4.2500 | 4.1959 | 4.2384 | 4.2023 | 4.1600 | 4.1698 | 3B |
| | | | 4.1953 | 4.1589 | 4.1916 | 4.1739 | 4.2498 | 4.2388 | 4.2509 | 4.1965 | 4.2375 | 4.2017 | 4.1602 | 4.1696 | |
| 4¼-16 or 4.250-16 | UN | 2A | 4.2076 | 4.1805 | 4.2017 | 4.1882 | 4.2482 | 4.2388 | 4.2500 | 4.2094 | 4.2441 | 4.2170 | 4.1820 | 4.1960 | 2B |
| | | | 4.2070 | 4.1796 | 4.2023 | 4.1891 | 4.2480 | 4.2390 | 4.2509 | 4.2100 | 4.2432 | 4.2164 | 4.1822 | 4.1958 | |
| | | 3A | 4.2094 | 4.1823 | 4.2050 | 4.1915 | 4.2500 | 4.2406 | 4.2500 | 4.2094 | 4.2422 | 4.2151 | 4.1820 | 4.1908 | 3B |
| | | | 4.2088 | 4.1814 | 4.2056 | 4.1924 | 4.2498 | 4.2408 | 4.2509 | 4.2100 | 4.2413 | 4.2145 | 4.1822 | 4.1906 | |
| 4⅜-6 or 4.375-6 | UN | 2A | 4.2637 | 4.1915 | 4.2536 | 4.2175 | 4.3720 | 4.3538 | 4.3750 | 4.2667 | 4.3521 | 4.2799 | 4.1950 | 4.2250 | 2B |
| | | | 4.2631 | 4.1902 | 4.2542 | 4.2188 | 4.3718 | 4.3540 | 4.3763 | 4.2673 | 4.3508 | 4.2793 | 4.1952 | 4.2248 | |
| | | 3A | 4.2667 | 4.1945 | 4.2591 | 4.2230 | 4.3750 | 4.3568 | 4.3750 | 4.2667 | 4.3488 | 4.2766 | 4.1950 | 4.2146 | 3B |
| | | | 4.2661 | 4.1932 | 4.2597 | 4.2243 | 4.3748 | 4.3570 | 4.3763 | 4.2673 | 4.3475 | 4.2760 | 4.1952 | 4.2144 | |
| 4⅜-12 or 4.375-12 | UN | 2A | 4.3189 | 4.2828 | 4.3124 | 4.2944 | 4.3730 | 4.3616 | 4.3750 | 4.3209 | 4.3655 | 4.3294 | 4.2850 | 4.3030 | 2B |
| | | | 4.3183 | 4.2819 | 4.3130 | 4.2953 | 4.3728 | 4.3618 | 4.3759 | 4.3215 | 4.3646 | 4.3288 | 4.2852 | 4.3028 | |
| | | 3A | 4.3209 | 4.2848 | 4.3160 | 4.2980 | 4.3750 | 4.3636 | 4.3750 | 4.3209 | 4.3634 | 4.3273 | 4.2850 | 4.2948 | 3B |
| | | | 4.3203 | 4.2839 | 4.3166 | 4.2989 | 4.3748 | 4.3638 | 4.3759 | 4.3215 | 4.3625 | 4.3267 | 4.2852 | 4.2946 | |
| 4⅜-16 or 4.375-16 | UN | 2A | 4.3326 | 4.3055 | 4.3267 | 4.3132 | 4.3732 | 4.3638 | 4.3750 | 4.3344 | 4.3691 | 4.3420 | 4.3070 | 4.3210 | 2B |
| | | | 4.3320 | 4.3046 | 4.3273 | 4.3141 | 4.3730 | 4.3640 | 4.3759 | 4.3350 | 4.3682 | 4.3414 | 4.3072 | 4.3208 | |
| | | 3A | 4.3344 | 4.3073 | 4.3300 | 4.3165 | 4.3750 | 4.3656 | 4.3750 | 4.3344 | 4.3672 | 4.3401 | 4.3070 | 4.3158 | 3B |
| | | | 4.3338 | 4.3064 | 4.3306 | 4.3174 | 4.3748 | 4.3658 | 4.3759 | 4.3350 | 4.3663 | 4.3395 | 4.3072 | 4.3156 | |
| 4½-4 or 4.500-4 | UN | 2A | 4.3341 | 4.2258 | 4.3225 | 4.2684 | 4.4965 | 4.4727 | 4.5000 | 4.3376 | 4.4610 | 4.3527 | 4.2290 | 4.2670 | 2B |
| | | | 4.3335 | 4.2243 | 4.3231 | 4.2699 | 4.4963 | 4.4729 | 4.5015 | 4.3382 | 4.4595 | 4.3521 | 4.2292 | 4.2668 | |
| | | 3A | 4.3376 | 4.2293 | 4.3289 | 4.2748 | 4.5000 | 4.4762 | 4.5000 | 4.3376 | 4.4572 | 4.3489 | 4.2290 | 4.2594 | 3B |
| | | | 4.3370 | 4.2278 | 4.3295 | 4.2763 | 4.4998 | 4.4764 | 4.5015 | 4.3382 | 4.4557 | 4.3483 | 4.2292 | 4.2592 | |
| 4½-6 or 4.500-6 | UN | 2A | 4.3886 | 4.3164 | 4.3784 | 4.3423 | 4.4969 | 4.4787 | 4.5000 | 4.3917 | 4.4772 | 4.4050 | 4.3200 | 4.3500 | 2B |
| | | | 4.3880 | 4.3151 | 4.3790 | 4.3436 | 4.4967 | 4.4789 | 4.5013 | 4.3923 | 4.4759 | 4.4044 | 4.3202 | 4.3498 | |
| | | 3A | 4.3917 | 4.3195 | 4.3840 | 4.3479 | 4.5000 | 4.4818 | 4.5000 | 4.3917 | 4.4738 | 4.4016 | 4.3200 | 4.3396 | 3B |
| | | | 4.3911 | 4.3182 | 4.3846 | 4.3492 | 4.4998 | 4.4820 | 4.5013 | 4.3923 | 4.4725 | 4.4010 | 4.3202 | 4.3394 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 4½-12 or 4.500-12 | UN | 2A | 4.4439 | 4.4078 | 4.4374 | 4.4194 | 4.4980 | 4.4866 | 4.5000 | 4.4459 | 4.4905 | 4.4544 | 4.4100 | 4.4280 | 2B |
| | | | 4.4433 | 4.4069 | 4.4380 | 4.4203 | 4.4978 | 4.4868 | 4.5009 | 4.4465 | 4.4896 | 4.4538 | 4.4102 | 4.4278 | |
| | | 3A | 4.4459 | 4.4098 | 4.4410 | 4.4230 | 4.5000 | 4.4886 | 4.5000 | 4.4459 | 4.4884 | 4.4523 | 4.4100 | 4.4198 | 3B |
| | | | 4.4453 | 4.4089 | 4.4416 | 4.4239 | 4.4998 | 4.4888 | 4.5009 | 4.4465 | 4.4875 | 4.4517 | 4.4102 | 4.4196 | |
| 4½-16 or 4.500-16 | UN | 2A | 4.4576 | 4.4305 | 4.4517 | 4.4382 | 4.4982 | 4.4888 | 4.5000 | 4.4594 | 4.4941 | 4.4670 | 4.4320 | 4.4460 | 2B |
| | | | 4.4570 | 4.4296 | 4.4523 | 4.4391 | 4.4980 | 4.4890 | 4.5009 | 4.4600 | 4.4932 | 4.4664 | 4.4322 | 4.4458 | |
| | | 3A | 4.4594 | 4.4323 | 4.4550 | 4.4415 | 4.5000 | 4.4906 | 4.5000 | 4.4594 | 4.4922 | 4.4651 | 4.4320 | 4.4408 | 3B |
| | | | 4.4588 | 4.4314 | 4.4556 | 4.4424 | 4.4998 | 4.4908 | 4.5009 | 4.4600 | 4.4913 | 4.4645 | 4.4322 | 4.4406 | |
| 4⅝-6 or 4.625-6 | UN | 2A | 4.5136 | 4.4414 | 4.5033 | 4.4672 | 4.62190 | 4.60370 | 4.6250 | 4.5167 | 4.6022 | 4.5300 | 4.44500 | 4.47500 | 2B |
| | | | 4.5130 | 4.4401 | 4.5039 | 4.4685 | 4.62165 | 4.60395 | 4.6263 | 4.5173 | 4.6009 | 4.5294 | 4.44525 | 4.47475 | |
| | | 3A | 4.5167 | 4.4445 | 4.5090 | 4.4729 | 4.62500 | 4.60680 | 4.6250 | 4.5167 | 4.5989 | 4.5267 | 4.44500 | 4.46460 | 3B |
| | | | 4.5161 | 4.4432 | 4.5096 | 4.4742 | 4.62475 | 4.60705 | 4.6263 | 4.5173 | 4.5976 | 4.5261 | 4.44525 | 4.46435 | |
| 4⅝-12 or 4.625-12 | UN | 2A | 4.5689 | 4.5328 | 4.5622 | 4.5442 | 4.62300 | 4.61160 | 4.6250 | 4.5709 | 4.6157 | 4.5796 | 4.53500 | 4.55300 | 2B |
| | | | 4.5683 | 4.5319 | 4.5628 | 4.5451 | 4.62275 | 4.61185 | 4.6259 | 4.5715 | 4.6148 | 4.5790 | 4.53525 | 4.55275 | |
| | | 3A | 4.5709 | 4.5348 | 4.5659 | 4.5479 | 4.62500 | 4.61360 | 4.6250 | 4.5709 | 4.6136 | 4.5775 | 4.53500 | 4.54480 | 3B |
| | | | 4.5703 | 4.5339 | 4.5665 | 4.5488 | 4.62475 | 4.61385 | 4.6259 | 4.5715 | 4.6127 | 4.5769 | 4.53525 | 4.54455 | |
| 4⅝-16 or 4.625-16 | UN | 2A | 4.5826 | 4.5555 | 4.5765 | 4.5630 | 4.62320 | 4.61380 | 4.6250 | 4.5844 | 4.6194 | 4.5923 | 4.55700 | 4.57100 | 2B |
| | | | 4.5820 | 4.5546 | 4.5771 | 4.5639 | 4.62295 | 4.61405 | 4.6259 | 4.5850 | 4.6185 | 4.5917 | 4.55725 | 4.57075 | |
| | | 3A | 4.5844 | 4.5573 | 4.5799 | 4.5664 | 4.62500 | 4.61560 | 4.6250 | 4.5844 | 4.6174 | 4.5903 | 4.55700 | 4.56580 | 3B |
| | | | 4.5838 | 4.5564 | 4.5805 | 4.5673 | 4.62475 | 4.61585 | 4.6259 | 4.5850 | 4.6165 | 4.5897 | 4.55725 | 4.56555 | |
| 4¾-4 or 4.750-4 | UN | 2A | 4.5841 | 4.4758 | 4.5724 | 4.5183 | 4.74650 | 4.72270 | 4.7500 | 4.5876 | 4.7112 | 4.6029 | 4.47900 | 4.51700 | 2B |
| | | | 4.5835 | 4.4743 | 4.5730 | 4.5198 | 4.74625 | 4.72295 | 4.7515 | 4.5882 | 4.7097 | 4.6023 | 4.47925 | 4.51675 | |
| | | 3A | 4.5876 | 4.4793 | 4.5788 | 4.5247 | 4.75000 | 4.72620 | 4.7500 | 4.5876 | 4.7073 | 4.5990 | 4.47900 | 4.50940 | 3B |
| | | | 4.5870 | 4.4778 | 4.5794 | 4.5262 | 4.74975 | 4.72645 | 4.7515 | 4.5882 | 4.7058 | 4.5984 | 4.47925 | 4.50915 | |
| 4¾-6 or 4.750-6 | UN | 2A | 4.6386 | 4.5664 | 4.6283 | 4.5922 | 4.74690 | 4.72870 | 4.7500 | 4.6417 | 4.7273 | 4.6551 | 4.57000 | 4.60000 | 2B |
| | | | 4.6380 | 4.5651 | 4.6289 | 4.5935 | 4.74665 | 4.72895 | 4.7513 | 4.6423 | 4.7260 | 4.6545 | 4.57025 | 4.59975 | |
| | | 3A | 4.6417 | 4.5695 | 4.6340 | 4.5979 | 4.75000 | 4.73180 | 4.7500 | 4.6417 | 4.7240 | 4.6518 | 4.57000 | 4.58960 | 3B |
| | | | 4.6411 | 4.5682 | 4.6346 | 4.5992 | 4.74975 | 4.73205 | 4.7513 | 4.6423 | 4.7227 | 4.6512 | 4.57025 | 4.58935 | |
| 4¾-12 or 4.750-12 | UN | 2A | 4.6939 | 4.6578 | 4.6872 | 4.6692 | 4.74800 | 4.73660 | 4.7500 | 4.6959 | 4,7407 | 4.7046 | 4.66000 | 4.67800 | 2B |
| | | | 4.6933 | 4.6569 | 4.6878 | 4.6701 | 4.74775 | 4.73685 | 4.7509 | 4.6965 | 4.7398 | 4.7040 | 4.66025 | 4.67775 | |
| | | 3A | 4.6959 | 4.6598 | 4.6909 | 4.6729 | 4.75000 | 4.73860 | 4.7500 | 4.6959 | 4.7386 | 4.7025 | 4.66000 | 4.66980 | 3B |
| | | | 4.6953 | 4.6589 | 4.6915 | 4.6738 | 4.74975 | 4.73885 | 4.7509 | 4.6965 | 4.7377 | 4.7019 | 4.66025 | 4.66955 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/In. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 4¾-16 or 4.750-16 | UN | 2A | 4.7076 | 4.6805 | 4.7015 | 4.6880 | 4.74820 | 4.73880 | 4.7500 | 4.7094 | 4.7444 | 4.7173 | 4.68200 | 4.69600 | 2B |
| | | | 4.7070 | 4.6796 | 4.7021 | 4.6889 | 4.74795 | 4.73905 | 4.7509 | 4.7100 | 4.7435 | 4.7167 | 4.68225 | 4.69575 | |
| | | 3A | 4.7094 | 4.6823 | 4.7049 | 4.6914 | 4.75000 | 4.74060 | 4.7500 | 4.7094 | 4.7424 | 4.7153 | 4.68200 | 4.69080 | 3B |
| | | | 4.7088 | 4.6814 | 4.7055 | 4.6923 | 4.74975 | 4.74085 | 4.7509 | 4.7100 | 4.7415 | 4.7147 | 4.68225 | 4.69055 | |
| 4⅞-6 or 4.875-6 | UN | 2A | 4.7636 | 4.6914 | 4.7532 | 4.7171 | 4.87190 | 4.85370 | 4.8750 | 4.7667 | 4.8524 | 4.7802 | 4.69500 | 4.72500 | 2B |
| | | | 4.7630 | 4.6901 | 4.7538 | 4.7184 | 4.87165 | 4.85395 | 4.8763 | 4.7673 | 4.8511 | 4.7796 | 4.69525 | 4.72475 | |
| | | 3A | 4.7667 | 4.6945 | 4.7589 | 4.7228 | 4.87500 | 4.85680 | 4.8750 | 4.7667 | 4.8490 | 4.7768 | 4.69500 | 4.71460 | 3B |
| | | | 4.7661 | 4.6932 | 4.7595 | 4.7241 | 4.87475 | 4.85705 | 4.8763 | 4.7673 | 4.8477 | 4.7762 | 4.69525 | 4.71435 | |
| 4⅞-12 or 4.875-12 | UN | 2A | 4.8189 | 4.7828 | 4.8122 | 4.7942 | 4.87300 | 4.86160 | 4.8750 | 4.8209 | 4.8657 | 4.8296 | 4.78500 | 4.80300 | 2B |
| | | | 4.8183 | 4.7819 | 4.8128 | 4.7951 | 4.87275 | 4.86185 | 4.8759 | 4.8215 | 4.8648 | 4.8290 | 4.78525 | 4.80275 | |
| | | 3A | 4.8209 | 4.7848 | 4.8159 | 4.7979 | 4.87500 | 4.86360 | 4.8750 | 4.8209 | 4.8636 | 4.8275 | 4.78500 | 4.79480 | 3B |
| | | | 4.8203 | 4.7839 | 4.8165 | 4.7988 | 4.87475 | 4.86385 | 4.8759 | 4.8215 | 4.8627 | 4.8269 | 4.78525 | 4.79455 | |
| 4⅞-16 or 4.875-16 | UN | 2A | 4.8326 | 4.8055 | 4.8265 | 4.8130 | 4.87320 | 4.86380 | 4.8750 | 4.8344 | 4.8694 | 4.8423 | 4.80700 | 4.82100 | 2B |
| | | | 4.8320 | 4.8046 | 4.8271 | 4.8139 | 4.87295 | 4.86405 | 4.8759 | 4.8350 | 4.8685 | 4.8417 | 4.80725 | 4.82075 | |
| | | 3A | 4.8344 | 4.8073 | 4.8299 | 4.8164 | 4.87500 | 4.86560 | 4.8750 | 4.8344 | 4.8674 | 4.8403 | 4.80700 | 4.81580 | 3B |
| | | | 4.8338 | 4.8064 | 4.8305 | 4.8173 | 4.87475 | 4.86585 | 4.8759 | 4.8350 | 4.8665 | 4.8397 | 4.80725 | 4.81555 | |
| 5-4 or 5.000-4 | UN | 2A | 4.8340 | 4.7257 | 4.8221 | 4.7680 | 4.99640 | 4.97260 | 5.0000 | 4.8376 | 4.9613 | 4.8530 | 4.72900 | 4.76700 | 2B |
| | | | 4.8334 | 4.7242 | 4.8227 | 4.7695 | 4.99615 | 4.97285 | 5.0015 | 4.8382 | 4.9598 | 4.8524 | 4.72925 | 4.76675 | |
| | | 3A | 4.8376 | 4.7293 | 4.8287 | 4.7746 | 5.00000 | 4.97620 | 5.0000 | 4.8376 | 4.9575 | 4.8492 | 4.72900 | 4.75940 | 3B |
| | | | 4.8370 | 4.7278 | 4.8293 | 4.7761 | 4.99975 | 4.97645 | 5.0015 | 4.8382 | 4.9560 | 4.8486 | 4.72925 | 4.75915 | |
| 5-6 or 5.000-6 | UN | 2A | 4.8886 | 4.8164 | 4.8781 | 4.8420 | 4.99690 | 4.97870 | 5.0000 | 4.8917 | 4.9775 | 4.9053 | 4.82000 | 4.85000 | 2B |
| | | | 4.8880 | 4.8151 | 4.8787 | 4.8433 | 4.99665 | 4.97895 | 5.0013 | 4.8923 | 4.9762 | 4.9047 | 4.82025 | 4.84975 | |
| | | 3A | 4.8917 | 4.8195 | 4.8839 | 4.8478 | 5.00000 | 4.98180 | 5.0000 | 4.8917 | 4.9741 | 4.9019 | 4.82000 | 4.83960 | 3B |
| | | | 4.8911 | 4.8182 | 4.8845 | 4.8491 | 4.99975 | 4.98205 | 5.0013 | 4.8923 | 4.9728 | 4.9013 | 4.82025 | 4.83935 | |
| 5-12 or 5.000-12 | UN | 2A | 4.9439 | 4.9078 | 4.9372 | 4.9192 | 4.99800 | 4.98660 | 5.0000 | 4.9459 | 4.9907 | 4.9546 | 4.91000 | 4.92800 | 2B |
| | | | 4.9433 | 4.9069 | 4.9378 | 4.9201 | 4.99775 | 4.98685 | 5.0009 | 4.9465 | 4.9898 | 4.9540 | 4.91025 | 4.92775 | |
| | | 3A | 4.9459 | 4.9098 | 4.9409 | 4.9229 | 5.00000 | 4.98860 | 5.0000 | 4.9459 | 4.9886 | 4.9525 | 4.91000 | 4.91980 | 3B |
| | | | 4.9453 | 4.9089 | 4.9415 | 4.9238 | 4.99975 | 4.98885 | 5.0009 | 4.9465 | 4.9877 | 4.9519 | 4.91025 | 4.91955 | |
| 5-16 or 5.000-16 | UN | 2A | 4.9576 | 4.9305 | 4.9515 | 4.9380 | 4.99820 | 4.98880 | 5.0000 | 4.9594 | 4.9944 | 4.9673 | 4.93200 | 4.94600 | 2B |
| | | | 4.9570 | 4.9296 | 4.9521 | 4.9389 | 4.99795 | 4.98905 | 5.0009 | 4.9600 | 4.9935 | 4.9667 | 4.93225 | 4.94575 | |
| | | 3A | 4.9594 | 4.9323 | 4.9549 | 4.9414 | 5.00000 | 4.99060 | 5.0000 | 4.9594 | 4.9924 | 4.9653 | 4.93200 | 4.94080 | 3B |
| | | | 4.9588 | 4.9314 | 4.9555 | 4.9423 | 4.99975 | 4.99085 | 5.0009 | 4.9600 | 4.9915 | 4.9647 | 4.93225 | 4.94055 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 5⅛-6 or 5.125-6 | UN | 2A | 5.0135 | 4.9413 | 5.0030 | 4.9669 | 5.12180 | 5.10360 | 5.1250 | 5.0167 | 5.1026 | 5.0304 | 4.94500 | 4.97500 | 2B |
| | | | 5.0129 | 4.9400 | 5.0036 | 4.9682 | 5.12155 | 5.10385 | 5.1263 | 5.0173 | 5.1013 | 5.0298 | 4.94525 | 4.97475 | |
| | | 3A | 5.0167 | 4.9445 | 5.0088 | 4.9727 | 5.12500 | 5.10680 | 5.1250 | 5.0167 | 5.0992 | 5.0270 | 4.94500 | 4.96460 | 3B |
| | | | 5.0161 | 4.9432 | 5.0094 | 4.9740 | 5.12475 | 5.10705 | 5.1263 | 5.0173 | 5.0979 | 5.0264 | 4.94525 | 4.96435 | |
| 5⅛-12 or 5.125-12 | UN | 2A | 5.0689 | 5.0328 | 5.0622 | 5.0442 | 5.12300 | 5.11160 | 5.1250 | 5.0709 | 5.1157 | 5.0796 | 5.03500 | 5.05300 | 2B |
| | | | 5.0683 | 5.0319 | 5.0628 | 5.0451 | 5.12275 | 5.11185 | 5.1259 | 5.0715 | 5.1148 | 5.0790 | 5.03525 | 5.05275 | |
| | | 3A | 5.0709 | 5.0348 | 5.0659 | 5.0479 | 5.12500 | 5.11360 | 5.1250 | 5.0709 | 5.1136 | 5.0775 | 5.03500 | 5.04480 | 3B |
| | | | 5.0703 | 5.0339 | 5.0665 | 5.0488 | 5.12475 | 5.11385 | 5.1259 | 5.0715 | 5.1127 | 5.0769 | 5.03525 | 5.04455 | |
| 5⅛-16 or 5.125-16 | UN | 2A | 5.0826 | 5.0555 | 5.0765 | 5.0630 | 5.12320 | 5.11380 | 5.1250 | 5.0844 | 5.1194 | 5.0923 | 5.05700 | 5.07100 | 2B |
| | | | 5.0820 | 5.0546 | 5.0771 | 5.0639 | 5.12295 | 5.11405 | 5.1259 | 5.0850 | 5.1185 | 5.0917 | 5.05725 | 5.07075 | |
| | | 3A | 5.0844 | 5.0573 | 5.0799 | 5.0664 | 5.12500 | 5.11560 | 5.1250 | 5.0844 | 5.1174 | 5.0903 | 5.05700 | 5.06580 | 3B |
| | | | 5.0838 | 5.0564 | 5.0805 | 5.0673 | 5.12475 | 5.11585 | 5.1259 | 5.0850 | 5.1165 | 5.0897 | 5.05725 | 5.06555 | |
| 5¼-4 or 5.250-4 | UN | 2A | 5.0840 | 4.9757 | 5.0720 | 5.0179 | 5.24640 | 5.22260 | 5.2500 | 5.0876 | 5.2115 | 5.1032 | 4.97900 | 5.01700 | 2B |
| | | | 5.0834 | 4.9742 | 5.0726 | 5.0194 | 5.24615 | 5.22285 | 5.2515 | 5.0882 | 5.2100 | 5.1026 | 4.97925 | 5.01675 | |
| | | 3A | 5.0876 | 4.9793 | 5.0786 | 5.0245 | 5.25000 | 5.22620 | 5.2500 | 5.0876 | 5.2076 | 5.0993 | 4.97900 | 5.00940 | 3B |
| | | | 5.0870 | 4.9778 | 5.0792 | 5.0260 | 5.24975 | 5.22645 | 5.2515 | 5.0882 | 5.2061 | 5.0987 | 4.97925 | 5.00915 | |
| 5¼-6 or 5.250-6 | UN | 2A | 5.1385 | 5.0663 | 5.1279 | 5.0918 | 5.24680 | 5.22860 | 5.2500 | 5.1417 | 5.2277 | 5.1555 | 5.07000 | 5.10000 | 2B |
| | | | 5.1379 | 5.0650 | 5.1285 | 5.0931 | 5.24655 | 5.22885 | 5.2513 | 5.1423 | 5.2264 | 5.1549 | 5.07025 | 5.09975 | |
| | | 3A | 5.1417 | 5.0695 | 5.1338 | 5.0977 | 5.25000 | 5.23180 | 5.2500 | 5.1417 | 5.2242 | 5.1520 | 5.07000 | 5.08960 | 3B |
| | | | 5.1411 | 5.0682 | 5.1344 | 5.0990 | 5.25975 | 5.23205 | 5.2513 | 5.1423 | 5.2229 | 5.1514 | 5.07025 | 5.08935 | |
| 5¼-12 or 5.250-12 | UN | 2A | 5.1939 | 5.1578 | 5.1872 | 5.1692 | 5.24800 | 5.23660 | 5.2500 | 5.1959 | 5.2407 | 5.2046 | 5.16000 | 5.17800 | 2B |
| | | | 5.1933 | 5.1569 | 5.1878 | 5.1701 | 5.24775 | 5.23685 | 5.2509 | 5.1965 | 5.2398 | 5.2040 | 5.16025 | 5.17775 | |
| | | 3A | 5.1959 | 5.1598 | 5.1909 | 5.1729 | 5.25000 | 5.23860 | 5.2500 | 5.1959 | 5.2386 | 5.2025 | 5.16000 | 5.16980 | 3B |
| | | | 5.1953 | 5.1589 | 5.1915 | 5.1738 | 5.24975 | 5.23885 | 5.2509 | 5.1965 | 5.2377 | 5.2019 | 5.16025 | 5.16955 | |
| 5¼-16 or 5.250-16 | UN | 2A | 5.2076 | 5.1805 | 5.2015 | 5.1880 | 5.24820 | 5.23880 | 5.2500 | 5.2094 | 5.2444 | 5.2173 | 5.18200 | 5.19600 | 2B |
| | | | 5.2070 | 5.1796 | 5.2021 | 5.1889 | 5.24795 | 5.23905 | 5.2509 | 5.2100 | 5.2435 | 5.2167 | 5.18225 | 5.19575 | |
| | | 3A | 5.2094 | 5.1823 | 5.2049 | 5.1914 | 5.25000 | 5.24060 | 5.2500 | 5.2094 | 5.2424 | 5.2153 | 5.18200 | 5.19080 | 3B |
| | | | 5.2088 | 5.1814 | 5.2055 | 5.1923 | 5.24975 | 5.24085 | 5.2509 | 5.2100 | 5.2415 | 5.2147 | 5.18225 | 5.19055 | |
| 5⅜-6 or 5.375-6 | UN | 2A | 5.2635 | 5.1913 | 5.2529 | 5.2168 | 5.37180 | 5.35360 | 5.3750 | 5.2667 | 5.3527 | 5.2805 | 5.19500 | 5.22500 | 2B |
| | | | 5.2629 | 5.1900 | 5.2535 | 5.2181 | 5.37155 | 5.35385 | 5.3763 | 5.2673 | 5.3514 | 5.2799 | 5.19525 | 5.22475 | |
| | | 3A | 5.2667 | 5.1945 | 5.2587 | 5.2226 | 5.37500 | 5.35680 | 5.3750 | 5.2667 | 5.3493 | 5.2771 | 5.19500 | 5.21460 | 3B |
| | | | 5.2661 | 5.1932 | 5.2593 | 5.2239 | 5.37475 | 5.35705 | 5.3763 | 5.2673 | 5.3480 | 5.2765 | 5.19525 | 5.21435 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 5⅜-12 or 5.375-12 | UN | 2A | 5.3189 | 5.2828 | 5.3122 | 5.2942 | 5.37300 | 5.36160 | 5.3750 | 5.3209 | 5.3657 | 5.3296 | 5.28500 | 5.30300 | 2B |
| | | | 5.3183 | 5.2819 | 5.3128 | 5.2951 | 5.37275 | 5.36185 | 5.3759 | 5.3215 | 5.3648 | 5.3290 | 5.28525 | 5.30275 | |
| | | 3A | 5.3209 | 5.2848 | 5.3159 | 5.2979 | 5.37500 | 5.36360 | 5.3750 | 5.3209 | 5.3636 | 5.3275 | 5.28500 | 5.29480 | 3B |
| | | | 5.3203 | 5.2839 | 5.3165 | 5.2988 | 5.37475 | 5.36385 | 5.3759 | 5.3215 | 5.3627 | 5.3269 | 5.28525 | 5.29455 | |
| 5⅜-16 or 5.375-16 | UN | 2A | 5.3326 | 5.3055 | 5.3265 | 5.3130 | 5.37320 | 5.36380 | 5.3750 | 5.3344 | 5.3694 | 5.3423 | 5.30700 | 5.32100 | 2B |
| | | | 5.3320 | 5.3046 | 5.3271 | 5.3139 | 5.37295 | 5.36405 | 5.3759 | 5.3350 | 5.3685 | 5.3417 | 5.30725 | 5.32075 | |
| | | 3A | 5.3344 | 5.3073 | 5.3299 | 5.3164 | 5.37500 | 5.36560 | 5.3750 | 5.3344 | 5.3674 | 5.3403 | 5.30700 | 5.31580 | 3B |
| | | | 5.3338 | 5.3064 | 5.3305 | 5.3173 | 5.37475 | 5.36585 | 5.3759 | 5.3350 | 5.3665 | 5.3397 | 5.30725 | 5.31555 | |
| 5½-4 or 5.500-4 | UN | 2A | 5.3340 | 5.2257 | 5.3219 | 5.2678 | 5.49640 | 5.47260 | 5.5000 | 5.3376 | 5.4617 | 5.3534 | 5.22900 | 5.26700 | 2B |
| | | | 5.3334 | 5.2242 | 5.3225 | 5.2693 | 5.49615 | 5.47285 | 5.5015 | 5.3382 | 5.4602 | 5.3528 | 5.22925 | 5.26675 | |
| | | 3A | 5.3376 | 5.2293 | 5.3285 | 5.2744 | 5.50000 | 5.47620 | 5.5000 | 5.3376 | 5.4577 | 5.3494 | 5.22900 | 5.25940 | 3B |
| | | | 5.3370 | 5.2278 | 5.3291 | 5.2759 | 5.49975 | 5.47645 | 5.5015 | 5.3382 | 5.4562 | 5.3488 | 5.22925 | 5.25915 | |
| 5½-6 or 5.500-6 | UN | 2A | 5.3885 | 5.3163 | 5.3778 | 5.3417 | 5.49680 | 5.47860 | 5.5000 | 5.3917 | 5.4778 | 5.4056 | 5.32000 | 5.35000 | 2B |
| | | | 5.3879 | 5.3150 | 5.3784 | 5.3430 | 5.49655 | 5.47885 | 5.5013 | 5.3923 | 5.4765 | 5.4050 | 5.32025 | 5.34975 | |
| | | 3A | 5.3917 | 5.3195 | 5.3837 | 5.3476 | 5.50000 | 5.48180 | 5.5000 | 5.3917 | 5.4743 | 5.4021 | 5.32000 | 5.33960 | 3B |
| | | | 5.3911 | 5.3182 | 5.3843 | 5.3489 | 5.49975 | 5.48205 | 5.5013 | 5.3923 | 5.4730 | 5.4015 | 5.32025 | 5.33935 | |
| 5½-12 or 5.500-12 | UN | 2A | 5.4439 | 5.4078 | 5.4372 | 5.4192 | 5.49800 | 5.48660 | 5.5000 | 5.4459 | 5.4907 | 5.4546 | 5.41000 | 5.42800 | 2B |
| | | | 5.4433 | 5.4069 | 5.4378 | 5.4201 | 5.49775 | 5.48685 | 5.5009 | 5.4465 | 5.4898 | 5.4540 | 5.41025 | 5.42775 | |
| | | 3A | 5.4459 | 5.4098 | 5.4409 | 5.4229 | 5.50000 | 5.48860 | 5.5000 | 5.4459 | 5.4886 | 5.4525 | 5.41000 | 5.41980 | 3B |
| | | | 5.4453 | 5.4089 | 5.4415 | 5.4238 | 5.49975 | 5.48885 | 5.5009 | 5.4465 | 5.4877 | 5.4519 | 5.41025 | 5.41955 | |
| 5½-16 or 5.500-16 | UN | 2A | 5.4576 | 5.4305 | 5.4515 | 5.4380 | 5.49820 | 5.48880 | 5.5000 | 5.4594 | 5.4944 | 5.4673 | 5.43200 | 5.44600 | 2B |
| | | | 5.4570 | 5.4296 | 5.4521 | 5.4389 | 5.49795 | 5.48905 | 5.5009 | 5.4600 | 5.4935 | 5.4667 | 5.43225 | 5.44575 | |
| | | 3A | 5.4594 | 5.4323 | 5.4549 | 5.4414 | 5.50000 | 5.49060 | 5.5000 | 5.4594 | 5.4924 | 5.4653 | 5.43200 | 5.44080 | 3B |
| | | | 5.4588 | 5.4314 | 5.4555 | 5.4423 | 5.49975 | 5.49085 | 5.5009 | 5.4600 | 5.4915 | 5.4647 | 5.43225 | 5.44055 | |
| 5⅝-6 or 5.625-6 | UN | 2A | 5.5135 | 5.4413 | 5.5027 | 5.4666 | 5.62180 | 5.60360 | 5.6250 | 5.5167 | 5.6029 | 5.5307 | 5.44500 | 5.47500 | 2B |
| | | | 5.5129 | 5.4400 | 5.5033 | 5.4679 | 5.62155 | 5.60385 | 5.6263 | 5.5173 | 5.6016 | 5.5301 | 5.44525 | 5.47475 | |
| | | 3A | 5.5167 | 5.4445 | 5.5086 | 5.4725 | 5.62500 | 5.60680 | 5.6250 | 5.5167 | 5.5994 | 5.5272 | 5.44500 | 5.46460 | 3B |
| | | | 5.5161 | 5.4432 | 5.5092 | 5.4738 | 5.62475 | 5.60705 | 5.6263 | 5.5173 | 5.5981 | 5.5266 | 5.44525 | 5.46435 | |
| 5⅝-12 or 5.625-12 | UN | 2A | 5.5688 | 5.5327 | 5.5619 | 5.5439 | 5.62290 | 5.61150 | 5.6250 | 5.5709 | 5.6160 | 5.5799 | 5.53500 | 5.55300 | 2B |
| | | | 5.5682 | 5.5318 | 5.5625 | 5.5448 | 5.62265 | 5.61175 | 5.6259 | 5.5715 | 5.6151 | 5.5793 | 5.53525 | 5.55275 | |
| | | 3A | 5.5709 | 5.5348 | 5.5657 | 5.5477 | 5.62500 | 5.61360 | 5.6250 | 5.5709 | 5.6137 | 5.5776 | 5.53500 | 5.54480 | 3B |
| | | | 5.5703 | 5.5339 | 5.5663 | 5.5486 | 5.62475 | 5.61385 | 5.6259 | 5.5715 | 5.6128 | 5.5770 | 5.53525 | 5.54455 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)



| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 5⅝-16 or 5.625-16 | UN | 2A | 5.5825 | 5.5554 | 5.5763 | 5.5628 | 5.62310 | 5.61370 | 5.6250 | 5.5844 | 5.6196 | 5.5925 | 5.55700 | 5.57100 | 2B |
| | | | 5.5819 | 5.5545 | 5.5769 | 5.5637 | 5.62285 | 5.61395 | 5.6259 | 5.5850 | 5.6187 | 5.5919 | 5.55725 | 5.57075 | |
| | | 3A | 5.5844 | 5.5573 | 5.5797 | 5.5662 | 5.62500 | 5.61560 | 5.6250 | 5.5844 | 5.6176 | 5.5905 | 5.55700 | 5.56580 | 3B |
| | | | 5.5838 | 5.5564 | 5.5803 | 5.5671 | 5.62475 | 5.61585 | 5.6259 | 5.5850 | 5.6167 | 5.5899 | 5.55725 | 5.56555 | |
| 5¾-4 or 5.750-4 | UN | 2A | 5.5839 | 5.4756 | 5.5717 | 5.5176 | 5.74630 | 5.72250 | 5.7500 | 5.5876 | 5.7118 | 5.6035 | 5.47900 | 5.51700 | 2B |
| | | | 5.5833 | 5.4741 | 5.5723 | 5.5191 | 5.74605 | 5.72275 | 5.7515 | 5.5882 | 5.7103 | 5.6029 | 5.47925 | 5.51675 | |
| | | 3A | 5.5876 | 5.4793 | 5.5784 | 5.5243 | 5.75000 | 5.72620 | 5.7500 | 5.5876 | 5.7078 | 5.5995 | 5.47900 | 5.50940 | 3B |
| | | | 5.5870 | 5.4778 | 5.5790 | 5.5258 | 5.74975 | 5.72645 | 5.7515 | 5.5882 | 5.7063 | 5.5989 | 5.47925 | 5.50915 | |
| 5¾-6 or 5.750-6 | UN | 2A | 5.6385 | 5.5663 | 5.6277 | 5.5916 | 5.74680 | 5.72860 | 5.7500 | 5.6417 | 5.7280 | 5.6558 | 5.57000 | 5.60000 | 2B |
| | | | 5.6379 | 5.5650 | 5.6283 | 5.5929 | 5.74655 | 5.72885 | 5.7513 | 5.6423 | 5.7267 | 5.6552 | 5.57025 | 5.59975 | |
| | | 3A | 5.6417 | 5.5695 | 5.6336 | 5.5975 | 5.75000 | 5.73180 | 5.7500 | 5.6417 | 5.7245 | 5.6523 | 5.57000 | 5.58960 | 3B |
| | | | 5.6411 | 5.5682 | 5.6342 | 5.5988 | 5.74975 | 5.73205 | 5.7513 | 5.6423 | 5.7232 | 5.6517 | 5.57025 | 5.58935 | |
| 5¾-12 or 5.750-12 | UN | 2A | 5.6938 | 5.6577 | 5.6869 | 5.6689 | 5.74790 | 5.73650 | 5.7500 | 5.6959 | 5.7410 | 5.7049 | 5.66000 | 5.67800 | 2B |
| | | | 5.6932 | 5.6568 | 5.6875 | 5.6698 | 5.74765 | 5.73675 | 5.7509 | 5.6965 | 5.7401 | 5.7043 | 5.66025 | 5.67775 | |
| | | 3A | 5.6959 | 5.5698 | 5.6907 | 5.6727 | 5.75000 | 5.73860 | 5.7500 | 5.6959 | 5.7387 | 5.7026 | 5.66000 | 5.66980 | 3B |
| | | | 5.6953 | 5.6589 | 5.6913 | 5.6736 | 5.74975 | 5.73885 | 5.7509 | 5.6965 | 5.7378 | 5.7020 | 5.66025 | 5.66955 | |
| 5¾-16 or 5.750-16 | UN | 2A | 5.7075 | 5.6804 | 5.7013 | 5.6878 | 5.74810 | 5.73870 | 5.7500 | 5.7094 | 5.7446 | 5.7175 | 5.68200 | 5.69600 | 2B |
| | | | 5.7069 | 5.6795 | 5.7019 | 5.6887 | 5.74785 | 5.73895 | 5.7509 | 5.7100 | 5.7437 | 5.7169 | 5.68225 | 5.69575 | |
| | | 3A | 5.7094 | 5.6823 | 5.7047 | 5.6912 | 5.75000 | 5.74060 | 5.7500 | 5.7094 | 5.7426 | 5.7155 | 5.68200 | 5.69080 | 3B |
| | | | 5.7088 | 5.6814 | 5.7053 | 5.6921 | 5.74975 | 5.74085 | 5.7509 | 5.7100 | 5.7417 | 5.7149 | 5.68225 | 5.69055 | |
| 5⅞-6 or 5.875-6 | UN | 2A | 5.7634 | 5.6912 | 5.7525 | 5.7164 | 5.87170 | 5.85350 | 5.8750 | 5.7667 | 5.8531 | 5.7809 | 5.69500 | 5.72500 | 2B |
| | | | 5.7628 | 5.6899 | 5.7531 | 5.7177 | 5.87145 | 5.85375 | 5.8763 | 5.7673 | 5.8518 | 5.7803 | 5.69525 | 5.72475 | |
| | | 3A | 5.7667 | 5.6945 | 5.7585 | 5.7224 | 5.87500 | 5.85680 | 5.8750 | 5.7667 | 5.8495 | 5.7773 | 5.69500 | 5.71460 | 3B |
| | | | 5.7661 | 5.6932 | 5.7591 | 5.7237 | 5.87475 | 5.85705 | 5.8763 | 5.7673 | 5.8482 | 5.7767 | 5.69525 | 5.71435 | |

## TABLE 10 GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | Gages for External Threads | | | | | | Gages for Internal Threads | | | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X Thread Gages | | | | Z Plain Gages for Major Diameter | | X Thread Gages | | | | Z Plain Gages for Minor Diameter | | |
| | | | GO | | NOT GO (LO) | | | | GO | | NOT GO (HI) | | | | |
| | | | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | GO | NOT GO | Major Diam. | Pitch Diam. | Major Diam. | Pitch Diam. | GO | NOT GO | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 5⅞-12 or 5.875-12 | UN | 2A | 5.8188 | 5.7827 | 5.8119 | 5.7939 | 5.87290 | 5.86150 | 5.8750 | 5.8209 | 5.8660 | 5.8299 | 5.78500 | 5.80300 | 2B |
| | | | 5.8182 | 5.7818 | 5.8125 | 5.7948 | 5.87265 | 5.86175 | 5.8759 | 5.8215 | 5.8651 | 5.8293 | 5.78525 | 5.80275 | |
| | | 3A | 5.8209 | 5.7848 | 5.8157 | 5.7977 | 5.87500 | 5.86360 | 5.8750 | 5.8209 | 5.8637 | 5.8276 | 5.78500 | 5.79480 | 3B |
| | | | 5.8203 | 5.7839 | 5.8163 | 5.7986 | 5.87475 | 5.86385 | 5.8759 | 5.8215 | 5.8628 | 5.8270 | 5.78525 | 5.79455 | |
| 5⅞-16 or 5.875-16 | UN | 2A | 5.8325 | 5.8054 | 5.8263 | 5.8128 | 5.87310 | 5.86370 | 5.8750 | 5.8344 | 5.8696 | 5.8425 | 5.80700 | 5.82100 | 2B |
| | | | 5.8319 | 5.8045 | 5.8269 | 5.8137 | 5.87285 | 5.86395 | 5.8759 | 5.8350 | 5.8687 | 5.8419 | 5.80725 | 5.82075 | |
| | | 3A | 5.8344 | 5.8073 | 5.8297 | 5.8162 | 5.87500 | 5.86560 | 5.8750 | 5.8344 | 5.8676 | 5.8405 | 5.80700 | 5.81580 | 3B |
| | | | 5.8338 | 5.8064 | 5.8303 | 5.8171 | 5.87475 | 5.86585 | 5.8759 | 5.8350 | 5.8667 | 5.8399 | 5.80725 | 5.81555 | |
| 6-4 or 6.000-4 | UN | 2A | 5.8339 | 5.7256 | 5.8215 | 5.7674 | 5.99630 | 5.97250 | 6.0000 | 5.8376 | 5.9620 | 5.8537 | 5.72900 | 5.76700 | 2B |
| | | | 5.8333 | 5.7241 | 5.8221 | 5.7689 | 5.99605 | 5.97275 | 6.0015 | 5.8382 | 5.9605 | 5.8531 | 5.72925 | 5.76675 | |
| | | 3A | 5.8376 | 5.7293 | 5.8283 | 5.7742 | 6.00000 | 5.97620 | 6.0000 | 5.8376 | 5.9579 | 5.8496 | 5.72900 | 5.75940 | 3B |
| | | | 5.8370 | 5.7278 | 5.8289 | 5.7757 | 5.99975 | 5.97645 | 6.0015 | 5.8382 | 5.9564 | 5.8490 | 5.72925 | 5.75915 | |
| 6-6 or 6.000-6 | UN | 2A | 5.8884 | 5.8162 | 5.8775 | 5.8414 | 5.99670 | 5.97850 | 6.0000 | 5.8917 | 5.9781 | 5.9059 | 5.82000 | 5.85000 | 2B |
| | | | 5.8878 | 5.8149 | 5.8781 | 5.8427 | 5.99645 | 5.97875 | 6.0013 | 5.8923 | 5.9768 | 5.9053 | 5.82025 | 5.84975 | |
| | | 3A | 5.8917 | 5.8195 | 5.8835 | 5.8474 | 6.00000 | 5.98180 | 6.0000 | 5.8917 | 5.9746 | 5.9024 | 5.82000 | 5.83960 | 3B |
| | | | 5.8911 | 5.8182 | 5.8841 | 5.8487 | 5.99975 | 5.98205 | 6.0013 | 5.8923 | 5.9733 | 5.9018 | 5.82025 | 5.83935 | |
| 6-12 or 6.000-12 | UN | 2A | 5.9438 | 5.9077 | 5.9369 | 5.9189 | 5.99790 | 5.98650 | 6.0000 | 5.9459 | 5.9910 | 5.9549 | 5.91000 | 5.92800 | 2B |
| | | | 5.9432 | 5.9068 | 5.9375 | 5.9198 | 5.99765 | 5.98675 | 6.0009 | 5.9465 | 5.9901 | 5.9543 | 5.91025 | 5.92775 | |
| | | 3A | 5.9459 | 5.9098 | 5.9407 | 5.9227 | 6.00000 | 5.98860 | 6.0000 | 5.9459 | 5.9887 | 5.9526 | 5.91000 | 5.91980 | 3B |
| | | | 5.9453 | 5.9089 | 5.9413 | 5.9236 | 5.99975 | 5.98885 | 6.0009 | 5.9465 | 5.9878 | 5.9520 | 5.91025 | 5.91955 | |
| 6-16 or 6.000-16 | UN | 2A | 5.9575 | 5.9304 | 5.9513 | 5.9378 | 5.99810 | 5.98870 | 6.0000 | 5.9594 | 5.9946 | 5.9675 | 5.93200 | 5.94600 | 2B |
| | | | 5.9569 | 5.9295 | 5.9519 | 5.9387 | 5.99785 | 5.98895 | 6.0009 | 5.9600 | 5.9937 | 5.9669 | 5.93225 | 5.94575 | |
| | | 3A | 5.9594 | 5.9323 | 5.9547 | 5.9412 | 6.00000 | 5.99060 | 6.0000 | 5.9594 | 5.9926 | 5.9655 | 5.93200 | 5.94080 | 3B |
| | | | 5.9588 | 5.9314 | 5.9553 | 5.9421 | 5.99975 | 5.99085 | 6.0009 | 5.9600 | 5.9917 | 5.9649 | 5.93225 | 5.94055 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 0-80 or 0.060-80 | UNF | 2A | 0.0561 | 0.0595 | 0.0514 | 0.0550 | 0.0584 | 0.0496 | ... | ... | ... | ... | ... |
| | | | .0558 | .0598 | .0513 | .0547 | .0587 | .0497 | ... | ... | ... | ... | ... |
| | | 3A | .0566 | .0600 | .0519 | .0560 | .0594 | .0506 | ... | ... | ... | ... | ... |
| | | | .0563 | .0603 | .0518 | .0557 | .0597 | .0507 | ... | ... | ... | ... | ... |
| 1-64 or 0.073-64 | UNC | 2A | .0684 | .0724 | .0623 | .0671 | .0718 | .0603 | ... | ... | ... | ... | ... |
| | | | .0681 | .0727 | .0622 | .0668 | .0721 | .0604 | ... | ... | ... | ... | ... |
| | | 3A | .0690 | .0730 | .0629 | .0682 | .0729 | .0614 | ... | ... | ... | ... | ... |
| | | | .0687 | .0733 | .0628 | .0679 | .0732 | .0615 | ... | ... | ... | ... | ... |
| 1-72 or 0.073-72 | UNF | 2A | .0687 | .0724 | .0634 | .0675 | .0715 | .0615 | ... | ... | ... | ... | ... |
| | | | .0684 | .0727 | .0633 | .0672 | .0718 | .0616 | ... | ... | ... | ... | ... |
| | | 3A | .0693 | .0730 | .0640 | .0686 | .0726 | .0626 | ... | ... | ... | ... | ... |
| | | | .0690 | .0733 | .0639 | .0683 | .0729 | .0627 | ... | ... | ... | ... | ... |
| 2-56 or 0.086-56 | UNC | 2A | .0810 | .0854 | .0738 | .0794 | .0852 | .0717 | ... | ... | ... | ... | ... |
| | | | .0807 | .0857 | .0737 | .0791 | .0855 | .0718 | ... | ... | ... | ... | ... |
| | | 3A | .0816 | .0860 | .0744 | .0805 | .0860 | .0728 | ... | ... | ... | ... | ... |
| | | | .0813 | .0863 | .0743 | .0802 | .0863 | .0729 | ... | ... | ... | ... | ... |
| 2-64 or 0.086-64 | UNF | 2A | 0.814 | .0854 | .0753 | .0801 | .0848 | .0733 | ... | ... | ... | ... | ... |
| | | | .0811 | .0857 | .0752 | .0798 | .0851 | .0734 | ... | ... | ... | ... | ... |
| | | 3A | .0820 | .0860 | .0759 | .0812 | .0859 | .0744 | ... | ... | ... | ... | ... |
| | | | .0817 | .0863 | .0758 | .0809 | .0862 | .0745 | ... | ... | ... | ... | ... |
| 3-48 or 0.099-48 | UNC | 2A | .0934 | .0983 | .0848 | .0915 | .0983 | .0825 | ... | ... | ... | ... | ... |
| | | | .0931 | .0986 | .0847 | .0912 | .0986 | .0826 | ... | ... | ... | ... | ... |
| | | 3A | .0941 | .0990 | .0855 | .0928 | .0990 | .0838 | ... | ... | ... | ... | ... |
| | | | .0938 | .0993 | .0854 | .0925 | .0993 | .0839 | ... | ... | ... | ... | ... |
| 3-56 or 0.099-56 | UNF | 2A | .0939 | .0983 | .0867 | .0922 | .0980 | .0845 | ... | ... | ... | ... | ... |
| | | | .0936 | .0986 | .0866 | .0919 | .0983 | .0846 | ... | ... | ... | ... | ... |
| | | 3A | .0946 | .0990 | .0874 | .0935 | .0990 | .0858 | ... | ... | ... | ... | ... |
| | | | .0943 | .0993 | .0873 | .0932 | .0993 | .0859 | ... | ... | ... | ... | ... |
| 4-40 or 0.112-40 | UNC | 2A | .1056 | .1112 | .0950 | .1033 | .1112 | .0925 | ... | ... | ... | ... | ... |
| | | | .1053 | .1115 | .0949 | .1030 | .1115 | .0926 | ... | ... | ... | ... | ... |
| | | 3A | .1064 | .1120 | .0958 | .1047 | .1120 | .0939 | ... | ... | ... | ... | ... |
| | | | .1061 | .1123 | .0957 | .1044 | .1123 | .0940 | ... | ... | ... | ... | ... |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 4-48 or 0.112-48 | UNF | 2A | 0.1064 | 0.1113 | 0.0978 | 0.1044 | 0.1113 | 0.0954 | ... | ... | ... | ... | ... |
| | | | .1061 | .1116 | .0977 | .1041 | .1116 | .0955 | ... | ... | ... | ... | ... |
| | | 3A | .1071 | .1120 | .0985 | .1057 | .1120 | .0967 | ... | ... | ... | ... | ... |
| | | | .1068 | .1123 | .0984 | .1054 | .1123 | .0968 | ... | ... | ... | ... | ... |
| 5-40 or 0.125-40 | UNC | 2A | .1186 | .1242 | .1080 | .1162 | .1242 | .1054 | ... | ... | ... | ... | ... |
| | | | .1183 | .1245 | .1079 | .1159 | .1245 | .1055 | ... | ... | ... | ... | ... |
| | | 3A | .1194 | .1250 | .1088 | .1177 | .1250 | .1069 | ... | ... | ... | ... | ... |
| | | | .1191 | .1253 | .1087 | .1174 | .1253 | .1070 | ... | ... | ... | ... | ... |
| 5-44 or 0.125-44 | UNF | 2A | .1191 | .1243 | .1095 | .1168 | .1243 | .1070 | ... | ... | ... | ... | ... |
| | | | .1183 | .1246 | .1094 | .1165 | .1246 | .1071 | ... | ... | ... | ... | ... |
| | | 3A | .1198 | .1250 | .1102 | .1181 | .1250 | .1083 | ... | ... | ... | ... | ... |
| | | | .1195 | .1253 | .1101 | .1178 | .1253 | .1084 | ... | ... | ... | ... | ... |
| 6-32 or 0.138-32 | UNC | 2A | .1307 | .1372 | .1169 | .1276 | .1372 | .1141 | ... | ... | ... | ... | ... |
| | | | .1304 | .1375 | .1168 | .1273 | .1375 | .1142 | ... | ... | ... | ... | ... |
| | | 3A | .1315 | .1380 | .1177 | .1291 | .1380 | .1156 | ... | ... | ... | ... | ... |
| | | | .1312 | .1383 | .1176 | .1288 | .1383 | .1157 | ... | ... | ... | ... | ... |
| 6-40 or 0.138-40 | UNF | 2A | .1316 | .1372 | .1210 | .1292 | .1372 | .1184 | ... | ... | ... | ... | ... |
| | | | .1313 | .1375 | .1209 | .1289 | .1375 | .1185 | ... | ... | ... | ... | ... |
| | | 3A | .1324 | .1380 | .1218 | .1306 | .1380 | .1198 | ... | ... | ... | ... | ... |
| | | | .1321 | .1383 | .1217 | .1303 | .1383 | .1199 | ... | ... | ... | ... | ... |
| 8-32 or 0.164-32 | UNC | 2A | .1566 | .1631 | .1428 | .1534 | .1631 | .1399 | ... | ... | ... | ... | ... |
| | | | .1563 | .1634 | .1427 | .1531 | .1634 | .1400 | ... | ... | ... | ... | ... |
| | | 3A | .1575 | .1640 | .1437 | .1550 | .1640 | .1415 | ... | ... | ... | ... | ... |
| | | | .1572 | .1643 | .1436 | .1547 | .1643 | .1416 | ... | ... | ... | ... | ... |
| 8-36 or 0.164-36 | UNF | 2A | .1572 | .1632 | .1452 | .1544 | .1632 | .1424 | ... | ... | ... | ... | ... |
| | | | .1569 | .1635 | .1451 | .1541 | .1635 | .1425 | ... | ... | ... | ... | ... |
| | | 3A | .1580 | .1640 | .1460 | .1559 | .1640 | .1439 | ... | ... | ... | ... | ... |
| | | | .1577 | .1643 | .1459 | .1556 | .1643 | .1440 | ... | ... | ... | ... | ... |
| 10-24 or 0.190-24 | UNC | 2A | .1811 | .1890 | .1619 | .1766 | .1890 | .1586 | .1629 | .1450 | .1672 | .1560 | 2B |
| | | | .1806 | .1895 | .1618 | .1761 | .1895 | .1587 | .1630 | .1445 | .1671 | .1555 | |
| | | 3A | .1821 | .1900 | .1629 | .1784 | .1900 | .1604 | .1629 | .1450 | .1661 | .1555 | 3B |
| | | | .1816 | .1905 | .1628 | .1779 | .1905 | .1605 | .1630 | .1445 | .1660 | .1550 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 10-32 or 0.190-32 | UNF | 2A | 0.1826 | 0.1891 | 0.1688 | 0.1793 | 0.1891 | 0.1658 | 0.1697 | 0.1560 | 0.1736 | 0.1640 | 2B |
| | | | .1823 | .1894 | .1687 | .1790 | .1894 | .1659 | .1698 | .1557 | .1735 | .1637 | |
| | | 3A | .1835 | .1900 | .1697 | .1809 | .1900 | .1674 | .1697 | .1560 | .1726 | .1641 | 3B |
| | | | .1832 | .1903 | .1696 | .1806 | .1903 | .1675 | .1698 | .1557 | .1725 | .1638 | |
| 12-24 or 0.216-24 | UNC | 2A | .2071 | .2150 | .1879 | .2025 | .2150 | .1845 | .1889 | .1710 | .1933 | .1810 | 2B |
| | | | .2066 | .2155 | .1878 | .2020 | .2155 | .1846 | .1890 | .1705 | .1932 | .1805 | |
| | | 3A | .2081 | .2160 | .1889 | .2043 | .2160 | .1863 | .1889 | .1710 | .1922 | .1807 | 3B |
| | | | .2076 | .2165 | .1888 | .2038 | .2165 | .1864 | .1890 | .1705 | .1921 | .1802 | |
| 12-28 or 0.216-28 | UNF | 2A | .2079 | .2150 | .1918 | .2041 | .2150 | .1886 | .1928 | .1770 | .1970 | .1860 | 2B |
| | | | .2074 | .2155 | .1917 | .2036 | .2155 | .1887 | .1929 | .1765 | .1969 | .1855 | |
| | | 3A | .2089 | .2160 | .1928 | .2059 | .2160 | .1904 | .1928 | .1770 | .1959 | .1857 | 3B |
| | | | .2084 | .2165 | .1927 | .2054 | .2165 | .1905 | .1929 | .1765 | .1958 | .1852 | |
| 12-32 or 0.216-32 | UNEF | 2A | .2086 | .2151 | .1948 | .2052 | .2151 | .1917 | .1957 | .1820 | .1998 | .1900 | 2B |
| | | | .2083 | .2154 | .1947 | .2049 | .2154 | .1918 | .1958 | .1817 | .1997 | .1897 | |
| | | 3A | .2095 | .2160 | .1957 | .2068 | .2160 | .1933 | .1957 | .1820 | .1988 | .1895 | 3B |
| | | | .2092 | .2163 | .1956 | .2065 | .2163 | .1934 | .1958 | .1817 | .1987 | .1892 | |
| 1/4-20 or 0.250-20 | UNC | 1A | .2399 | .2489 | .2164 | .2325 | .2489 | .2108 | .2175 | .1960 | .2248 | .2070 | 1B |
| | | | .2394 | .2494 | .2163 | .2320 | .2494 | .2109 | .2176 | .1955 | .2247 | .2065 | |
| | | 2A | .2399 | .2489 | .2164 | .2344 | .2489 | .2127 | .2175 | .1960 | .2224 | .2070 | 2B |
| | | | .2394 | .2494 | .2163 | .2339 | .2494 | .2128 | .2176 | .1955 | .2223 | .2065 | |
| | | 3A | .2410 | .2500 | .2175 | .2364 | .2500 | .2147 | .2175 | .1960 | .2211 | .2067 | 3B |
| | | | .2405 | .2505 | .2174 | .2359 | .2505 | .2148 | .2176 | .1955 | .2210 | .2062 | |
| 1/4-28 or 0.250-28 | UNF | 1A | .2419 | .2490 | .2258 | .2363 | .2490 | .2208 | .2268 | .2110 | .2333 | .2200 | 1B |
| | | | .2414 | .2495 | .2257 | .2358 | .2495 | .2209 | .2269 | .2105 | .2332 | .2195 | |
| | | 2A | .2419 | .2490 | .2258 | .2380 | .2490 | .2225 | .2268 | .2110 | .2311 | .2200 | 2B |
| | | | .2414 | .2495 | .2257 | .2375 | .2495 | .2226 | .2269 | .2105 | .2310 | .2195 | |
| | | 3A | .2429 | .2500 | .2268 | .2398 | .2500 | .2243 | .2268 | .2110 | .2300 | .2190 | 3B |
| | | | .2424 | .2505 | .2267 | .2393 | .2505 | .2244 | .2269 | .2105 | .2299 | .2185 | |
| 1/4-32 or 0.250-32 | UNEF | 2A | .2425 | .2490 | .2287 | .2390 | .2490 | .2255 | .2297 | .2160 | .2339 | .2240 | 2B |
| | | | .2422 | .2493 | .2286 | .2387 | .2493 | .2256 | .2298 | .2157 | .2338 | .2237 | |
| | | 3A | .2435 | .2500 | .2297 | .2408 | .2500 | .2273 | .2297 | .2160 | .2328 | .2229 | 3B |
| | | | .2432 | .2503 | .2296 | .2405 | .2503 | .2274 | .2298 | .2157 | .2327 | .2226 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 5/16-18 or 0.3125-18 | UNC | 1A | 0.3016 | 0.3113 | 0.2752 | 0.2932 | 0.3113 | 0.2691 | 0.2764 | 0.2520 | 0.2843 | 0.2650 | 1B |
| | | | .3011 | .3118 | .2751 | .2927 | .3118 | .2692 | .2765 | .2515 | .2842 | .2645 | |
| | | 2A | .3016 | .3113 | .2752 | .2953 | .3113 | .2712 | .2764 | .2520 | .2817 | .2650 | 2B |
| | | | .3011 | .3118 | .2751 | .2948 | .3118 | .2713 | .2765 | .2515 | .2816 | .2645 | |
| | | 3A | .3028 | .3125 | .2764 | .2975 | .3125 | .2734 | .2764 | .2520 | .2803 | .2630 | 3B |
| | | | .3023 | .3130 | .2763 | .2970 | .3130 | .2735 | .2765 | .2515 | .2802 | .2625 | |
| 5/16-20 or 0.3125-20 | UN | 2A | .3023 | .3113 | .2788 | .2965 | .3113 | .2748 | .2800 | .2580 | .2852 | .2700 | 2B |
| | | | .3018 | .3118 | .2787 | .2960 | .3118 | .2749 | .2801 | .2575 | .2851 | .2695 | |
| | | 3A | .3035 | .3125 | .2800 | .2987 | .3125 | .2770 | .2800 | .2580 | .2839 | .2680 | 3B |
| | | | .3030 | .3130 | .2799 | .2982 | .3130 | .2771 | .2801 | .2575 | .2838 | .2675 | |
| 5/16-24 or 0.3125-24 | UNF | 1A | .3035 | .3114 | .2843 | .2968 | .3114 | .2788 | .2854 | .2670 | .2925 | .2770 | 1B |
| | | | .3030 | .3119 | .2842 | .2963 | .3119 | .2789 | .2855 | .2665 | .2924 | .2765 | |
| | | 2A | .3035 | .3114 | .2843 | .2986 | .3114 | .2806 | .2854 | .2670 | .2902 | .2770 | 2B |
| | | | .3030 | .3119 | .2842 | .2981 | .3119 | .2807 | .2855 | .2665 | .2901 | .2765 | |
| | | 3A | .3046 | .3125 | .2854 | .3007 | .3125 | .2827 | .2854 | .2670 | .2890 | .2754 | 3B |
| | | | .3041 | .3130 | .2853 | .3002 | .3130 | .2828 | .2855 | .2665 | .2889 | .2749 | |
| 5/16-28 or 0.3125-28 | UN | 2A | .3044 | .3115 | .2883 | .3004 | .3115 | .2849 | .2893 | .2740 | .2937 | .2820 | 2B |
| | | | .3039 | .3120 | .2882 | .2999 | .3120 | .2850 | .2894 | .2735 | .2936 | .2815 | |
| | | 3A | .3054 | .3125 | .2893 | .3022 | .3125 | .2867 | .2893 | .2740 | .2926 | .2807 | 3B |
| | | | .3049 | .3130 | .2892 | .3017 | .3130 | .2868 | .2894 | .2735 | .2925 | .2802 | |
| 5/16-32 or 0.3125-32 | UNEF | 2A | .3050 | .3115 | .2912 | .3015 | .3115 | .2880 | .2922 | .2790 | .2964 | .2860 | 2B |
| | | | .3047 | .3118 | .2911 | .3012 | .3118 | .2881 | .2923 | .2787 | .2963 | .2857 | |
| | | 3A | .3060 | .3125 | .2922 | .3033 | .3125 | .2898 | .2922 | .2790 | .2953 | .2847 | 3B |
| | | | .3057 | .3128 | .2921 | .3030 | .3128 | .2899 | .2923 | .2787 | .2952 | .2844 | |
| 3/8-16 or 0.375-16 | UNC | 1A | .3632 | .3737 | .3331 | .3537 | .3737 | .3266 | .3344 | .3070 | .3429 | .3210 | 1B |
| | | | .3626 | .3743 | .3330 | .3531 | .3743 | .3267 | .3345 | .3064 | .3428 | .3204 | |
| | | 2A | .3632 | .3737 | .3331 | .3558 | .3737 | .3287 | .3344 | .3070 | .3401 | .3210 | 2B |
| | | | .3626 | .3743 | .3330 | .3552 | .3743 | .3288 | .3345 | .3064 | .3400 | .3204 | |
| | | 3A | .3645 | .3750 | .3344 | .3582 | .3750 | .3311 | .3344 | .3070 | .3387 | .3182 | 3B |
| | | | .3639 | .3756 | .3343 | .3576 | .3756 | .3312 | .3345 | .3064 | .3386 | .3176 | |
| 3/8-20 or 0.375-20 | UN | 2A | .3648 | .3738 | .3413 | .3589 | .3738 | .3372 | .3425 | .3210 | .3479 | .3320 | 2B |
| | | | .3643 | .3743 | .3412 | .3584 | .3743 | .3373 | .3426 | .3205 | .3478 | .3315 | |
| | | 3A | .3660 | .3750 | .3425 | .3611 | .3750 | .3394 | .3425 | .3210 | .3465 | .3297 | 3B |
| | | | .3655 | .3755 | .3424 | .3606 | .3755 | .3395 | .3426 | .3205 | .3464 | .3292 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 3/8-24 or 0.375-24 | UNF | 1A | .3660 | .3739 | .3468 | .3591 | .3739 | .3411 | .3479 | .3300 | .3553 | 3400 | 1B |
| | | | .3655 | .3744 | .3467 | .3586 | .3744 | .3412 | .3480 | .3295 | .3552 | .3395 | |
| | | 2A | .3660 | .3739 | .3468 | .3610 | .3739 | .3430 | .3479 | .3300 | .3528 | .3400 | 2B |
| | | | .3655 | .3744 | .3467 | .3605 | .3744 | .3431 | .3480 | .3295 | .3527 | .3395 | |
| | | 3A | .3671 | .3750 | .3479 | .3630 | .3750 | .3450 | .3479 | .3300 | .3516 | .3372 | 3B |
| | | | .3666 | .3755 | .3478 | .3625 | .3755 | .3451 | .3480 | .3295 | .3515 | .3367 | |
| 3/8-28 or 0.375-28 | UN | 2A | .3668 | .3739 | .3507 | .3626 | .3739 | .3471 | .3518 | .3360 | .3564 | .3450 | 2B |
| | | | .3663 | .3744 | .3506 | .3621 | .3744 | .3472 | .3519 | .3355 | .3563 | .3445 | |
| | | 3A | .3679 | .3750 | .3518 | .3646 | .3750 | .3491 | .3518 | .3360 | .3553 | .3426 | 3B |
| | | | .3674 | .3755 | .3517 | .3641 | .3755 | .3492 | .3519 | .3355 | .3552 | .3421 | |
| 3/8-32 or 0.375-32 | UNEF | 2A | .3675 | .3740 | .3537 | .3638 | .3740 | .3503 | .3547 | .3410 | .3591 | .3490 | 2B |
| | | | .3672 | .3743 | .3536 | .3635 | .3743 | .3504 | .3548 | .3407 | .3590 | .3487 | |
| | | 3A | .3685 | .3750 | .3547 | .3657 | .3750 | .3522 | .3547 | .3410 | .3580 | .3469 | 3B |
| | | | .3682 | .3753 | .3546 | .3654 | .3753 | .3523 | .3548 | .3407 | .3579 | .3466 | |
| 7/16-14 or 0.4375-14 | UNC | 1A | .4246 | .4361 | .38970 | .4135 | .4361 | .38260 | .39110 | .3600 | .40030 | .3760 | 1B |
| | | | .4240 | .4367 | .38955 | .4129 | .4367 | .38275 | .39125 | .3594 | .40015 | .3754 | |
| | | 2A | .4246 | .4361 | .38970 | .4159 | .4361 | .38500 | .39110 | .3600 | .39720 | .3760 | 2B |
| | | | .4240 | .4367 | .38955 | .4153 | .4367 | .38515 | .39125 | .3594 | .39705 | .3754 | |
| | | 3A | .4260 | .4375 | .39110 | .4185 | .4375 | .38760 | .39110 | .3600 | .39570 | .3717 | 3B |
| | | | .4254 | .4381 | .39095 | .4179 | .4381 | .38775 | .39125 | .3594 | .39555 | .3711 | |
| 7/16-16 or 0.4375-16 | UN | 2A | .4256 | .4361 | .3955 | .4180 | .4361 | .3909 | .3969 | .3700 | .4028 | .3840 | 2B |
| | | | .4250 | .4367 | .3954 | .4174 | .4367 | .3910 | .3970 | .3694 | .4027 | .3834 | |
| | | 3A | .4270 | .4375 | .3969 | .4206 | .4375 | .3935 | .3969 | .3700 | .4014 | .3800 | 3B |
| | | | .4264 | .4381 | .3968 | .4200 | .4381 | .3936 | .3970 | .3694 | .4013 | .3794 | |
| 7/16-20 or 0.4375-20 | UNF | 1A | .4272 | .4362 | .4037 | .4191 | .4362 | .3974 | .4050 | .3830 | .4131 | .3950 | 1B |
| | | | .4267 | .4367 | .4036 | .4186 | .4367 | .3975 | .4051 | .3825 | .4130 | .3945 | |
| | | 2A | .4272 | .4362 | .4037 | .4212 | .4362 | .3995 | .4050 | .3830 | .4104 | .3950 | 2B |
| | | | .4267 | .4367 | .4036 | .4207 | .4367 | .3996 | .4051 | .3825 | .4103 | .3945 | |
| | | 3A | .4285 | .4375 | .4050 | .4236 | .4375 | .4019 | .4050 | .3830 | .4091 | .3916 | 3B |
| | | | .4280 | .4380 | .4049 | .4231 | .4380 | .4020 | .4051 | .3825 | .4090 | .3911 | |
| 7/16-28 or 0.4375-28 | UNEF | 2A | .4293 | .4364 | .4132 | .4251 | .4364 | .4096 | .4143 | .3990 | .4189 | .4070 | 2B |
| | | | .4288 | .4369 | .4131 | .4246 | .4369 | .4097 | .4144 | .3985 | .4188 | .4065 | |
| | | 3A | .4304 | .4375 | .4143 | .4271 | .4375 | .4116 | .4143 | .3990 | .4178 | .4051 | 3B |
| | | | .4299 | .4380 | .4142 | .4266 | .4380 | .4117 | .4144 | .3985 | .4177 | .4046 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 7/16-32 or 0.4375-32 | UN | 2A | 0.4300 | 0.4365 | 0.4162 | 0.4263 | 0.4365 | 0.4128 | 0.4172 | 0.4040 | 0.4216 | 0.4110 | 2B |
| | | | .4297 | .4368 | .4161 | .4260 | .4368 | .4129 | .4173 | .4035 | .4215 | .4105 | |
| | | 3A | .4310 | .4375 | .4172 | .4282 | .4375 | .4147 | .4172 | .4040 | .4205 | .4094 | 3B |
| | | | .4307 | .4378 | .4171 | .4279 | .4378 | .4148 | .4173 | .4035 | .4204 | .4089 | |
| 1/2-13 or 0.500-13 | UNC | 1A | .4863 | .4985 | .44850 | .4744 | .4985 | .44110 | .45000 | .4170 | .45970 | .4340 | 1B |
| | | | .4857 | .4991 | .44835 | .4738 | .4991 | .44125 | .45015 | .4164 | .45955 | .4334 | |
| | | 2A | .4863 | .4985 | .44850 | .4768 | .4985 | .44350 | .45000 | .4170 | .45650 | .4340 | 2B |
| | | | .4857 | .4991 | .44835 | .4762 | .4991 | .44365 | .45015 | .4164 | .45635 | .4334 | |
| | | 3A | .4878 | .5000 | .45000 | .4796 | .5000 | .44630 | .45000 | .4170 | .45480 | .4284 | 3B |
| | | | .4872 | .5006 | .44985 | .4790 | .5006 | .44645 | .45015 | .4164 | .45465 | .4278 | |
| 1/2-16 or 0.500-16 | UN | 2A | .4881 | .4986 | .4580 | .4804 | .4986 | .4533 | .4594 | .4320 | .4655 | .4460 | 2B |
| | | | .4875 | .4992 | .4579 | .4798 | .4992 | .4534 | .4595 | .4314 | .4654 | .4454 | |
| | | 3A | .4895 | .5000 | .4594 | .4830 | .5000 | .4559 | .4594 | .4320 | .4640 | .4419 | 3B |
| | | | .4889 | .5006 | .4593 | .4824 | .5006 | .4560 | .4595 | .4314 | .4639 | .4413 | |
| 1/2-20 or 0.500-20 | UNF | 1A | .4897 | .4987 | .4662 | .4815 | .4987 | .4598 | .4675 | .4460 | .4759 | .4570 | 1B |
| | | | .4892 | .4992 | .4661 | .4810 | .4992 | .4599 | .4676 | .4455 | .4758 | .4565 | |
| | | 2A | .4897 | .4987 | .4662 | .4836 | .4987 | .4619 | .4675 | .4460 | .4731 | .4570 | 2B |
| | | | .4892 | .4992 | .4661 | .4831 | .4992 | .4620 | .4676 | .4455 | .4730 | .4565 | |
| | | 3A | .4910 | .5000 | .4675 | .4860 | .5000 | .4643 | .4675 | .4460 | .4717 | .4537 | 3B |
| | | | .4905 | .5005 | .4674 | .4855 | .5005 | .4644 | .4676 | .4455 | .4716 | .4532 | |
| 1/2-28 or 0.500-28 | UNEF | 2A | .4918 | .4989 | .4757 | .4875 | .4989 | .4720 | .4768 | .4610 | .4816 | .4700 | 2B |
| | | | .4913 | .4994 | .4756 | .4870 | .4994 | .4721 | .4769 | .4605 | .4815 | .4695 | |
| | | 3A | .4929 | .5000 | .4768 | .4895 | .5000 | .4740 | .4768 | .4610 | .4804 | .4676 | 3B |
| | | | .4924 | .5005 | .4767 | .4890 | .5005 | .4741 | .4769 | .4605 | .4803 | .4671 | |
| 1/2-32 or 0.500-32 | UN | 2A | .4925 | .4990 | .4787 | .4887 | .4990 | .4752 | .4797 | .4660 | .4842 | .4740 | 2B |
| | | | .4922 | .4993 | .4786 | .4884 | .4993 | .4753 | .4798 | .4657 | .4841 | .4737 | |
| | | 3A | .4935 | .5000 | .4797 | .4906 | .5000 | .4771 | .4797 | .4660 | .4831 | .4719 | 3B |
| | | | .4932 | .5003 | .4796 | .4903 | .5005 | .4772 | .4798 | .4657 | .4830 | .4716 | |
| 9/16-12 or 0.5625-12 | UNC | 1A | .5480 | .5609 | .5068 | .5351 | .5609 | .4990 | .5084 | .4720 | .5186 | .4900 | 1B |
| | | | .5474 | .5615 | .5066 | .5345 | .5615 | .4992 | .5086 | .4714 | .5184 | .4894 | |
| | | 2A | .5480 | .5609 | .5068 | .5377 | .5609 | .5016 | .5084 | .4720 | .5152 | .4900 | 2B |
| | | | .5474 | .5615 | .5066 | .5371 | .5615 | .5018 | .5086 | .4714 | .5150 | .4894 | |
| | | 3A | .5496 | .5625 | .5084 | .5406 | .5625 | .5045 | .5084 | .4720 | .5135 | .4843 | 3B |
| | | | .5490 | .5631 | .5082 | .5400 | .5631 | .5047 | .5086 | .4714 | .5133 | .4837 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 9/16-16 or 0.5625-16 | UN | 2A | 0.5506 | 0.5611 | 0.5205 | 0.5429 | 0.5611 | 0.5158 | 0.5219 | 0.4950 | 0.5280 | 0.5090 | 2B |
| | | | .5500 | .5617 | .5203 | .5423 | .5617 | .5160 | .5221 | .4944 | .5278 | .5084 | |
| | | 3A | .5520 | .5625 | .5219 | .5455 | .5625 | .5184 | .5219 | .4950 | .5265 | .5040 | 3B |
| | | | .5514 | .5631 | .5217 | .5449 | .5631 | .5186 | .5221 | .4944 | .5263 | .5034 | |
| 9/16-18 or 0.5625-18 | UNF | 1A | .5514 | .5611 | .52500 | .5423 | .5611 | .51820 | .52640 | .5020 | .53530 | .5150 | 1B |
| | | | .5509 | .5616 | .52485 | .5418 | .5616 | .51835 | .52655 | .5015 | .53515 | .5145 | |
| | | 2A | .5514 | .5611 | .52500 | .5446 | .5611 | .52050 | .52640 | .5020 | .53230 | .5150 | 2B |
| | | | .5509 | .5616 | .52485 | .5441 | .5616 | .52065 | .52655 | .5015 | .53215 | .5145 | |
| | | 3A | .5528 | .5625 | .52640 | .5471 | .5625 | .52300 | .52640 | .5020 | .53080 | .5106 | 3B |
| | | | .5523 | .5630 | .52625 | .5466 | .5630 | .52315 | .52655 | .5015 | .53065 | .5101 | |
| 9/16-20 or 0.5625-20 | UN | 2A | .5522 | .5612 | .52870 | .5462 | .5612 | .52450 | .53000 | .5080 | .53550 | .5200 | 2B |
| | | | .5517 | .5617 | .52855 | .5457 | .5617 | .52465 | .53015 | .5075 | .53535 | .5195 | |
| | | 3A | .5535 | .5625 | .53000 | .5485 | .5625 | .52680 | .53000 | .5080 | .53410 | .5162 | 3B |
| | | | .5530 | .5630 | .52985 | .5480 | .5630 | .52695 | .53015 | .5075 | .53395 | .5157 | |
| 9/16-24 or 0.5625-24 | UNEF | 2A | .5534 | .5613 | .53420 | .5483 | .5613 | .53030 | .53540 | .5170 | .54050 | .5270 | 2B |
| | | | .5529 | .5618 | .53405 | .5478 | .5618 | .53045 | .53555 | .5165 | .54035 | .5265 | |
| | | 3A | .5546 | .5625 | .53540 | .5505 | .5625 | .53250 | .53540 | .5170 | .53920 | .5244 | 3B |
| | | | .5541 | .5630 | .53525 | .5500 | .5630 | .53265 | .53555 | .5165 | .53905 | .5239 | |
| 9/16-28 or 0.5625-28 | UN | 2A | .5543 | .5614 | .53820 | .5500 | .5614 | .53450 | .53930 | .5240 | .54410 | .5320 | 2B |
| | | | .5538 | .5619 | .53805 | .5495 | .5619 | .53465 | .53945 | .5235 | .54395 | .5315 | |
| | | 3A | .5554 | .5625 | .53930 | .5520 | .5625 | .53650 | .53930 | .5240 | .54290 | .5301 | 3B |
| | | | .5549 | .5630 | .53915 | .5515 | .5630 | .53665 | .53945 | .5235 | .54275 | .5296 | |
| 9/16-32 or 0.5625-32 | UN | 2A | .5550 | .5615 | .54120 | .5512 | .5615 | .53770 | .54220 | .5290 | .54670 | .5360 | 2B |
| | | | .5545 | .5620 | .54105 | .5507 | .5620 | .53785 | .54235 | .5285 | .54655 | .5355 | |
| | | 3A | .5560 | .5625 | .54220 | .5531 | .5625 | .53960 | .54220 | .5290 | .54560 | .5344 | 3B |
| | | | .5555 | .5630 | .54205 | .5526 | .5630 | .53975 | .54235 | .5285 | .54545 | .5339 | |
| 5/8-11 or 0.625-11 | UNC | 1A | .6097 | .6234 | .5644 | .5955 | .6234 | .5561 | .5660 | .5270 | .5767 | .5460 | 1B |
| | | | .6091 | .6240 | .5642 | .5949 | .6240 | .5563 | .5662 | .5264 | .5765 | .5454 | |
| | | 2A | .6097 | .6234 | .5644 | .5983 | .6234 | .5589 | .5660 | .5270 | .5732 | .5460 | 2B |
| | | | .6091 | .6240 | .5642 | .5977 | .6240 | .5591 | .5662 | .5264 | .5730 | .5454 | |
| | | 3A | .6113 | .6250 | .5660 | .6013 | .6250 | .5619 | .5660 | .5270 | .5714 | .5391 | 3B |
| | | | .6107 | .6256 | .5658 | .6007 | .6256 | .5621 | .5662 | .5264 | .5712 | .5385 | |
| 5/8-12 or 0.625-12 | UN | 2A | .6105 | .6234 | .5693 | .6000 | .6234 | .5639 | .5709 | .5350 | .5780 | .5530 | 2B |
| | | | .6099 | .6240 | .5691 | .5994 | .6240 | .5641 | .5711 | .5344 | .5778 | .5524 | |
| | | 3A | .6121 | .6250 | .5709 | .6029 | .6250 | .5668 | .5709 | .5350 | .5762 | .5463 | 3B |
| | | | .6115 | .6256 | .5707 | .6023 | .6256 | .5670 | .5711 | .5344 | .5760 | .5457 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 5/8-16 or 0.625-16 | UN | 2A | 0.6131 | 0.6236 | 0.5830 | 0.6053 | 0.6236 | 0.5782 | 0.5844 | 0.5570 | 0.5906 | 0.5710 | 2B |
| | | | .6125 | .6242 | .5828 | .6047 | .6242 | .5784 | .5846 | .5564 | .5904 | .5704 | |
| | | 3A | .6145 | .6250 | .5844 | .6079 | .6250 | .5808 | .5844 | .5570 | 5890 | .5662 | 3B |
| | | | .6139 | .6256 | .5842 | .6073 | .6256 | .5810 | .5846 | .5564 | .5888 | .5656 | |
| 5/8-18 or 0.625-18 | UNF | 1A | .6139 | .6236 | .58750 | .6046 | .6236 | .58050 | .58890 | .5650 | .59800 | .5780 | 1B |
| | | | .6134 | .6241 | .58735 | .6041 | .6241 | .58065 | .58905 | .5645 | .59785 | .5775 | |
| | | 2A | .6139 | .6236 | .58750 | .6069 | .6236 | .58280 | .58890 | .5650 | .59490 | .5780 | 2B |
| | | | .6134 | .6241 | .58735 | .6064 | .6241 | .58295 | .58905 | .5645 | .59475 | .5775 | |
| | | 3A | .6153 | .6250 | .58890 | .6095 | .6250 | .58540 | .58890 | .5650 | .59340 | .5730 | 3B |
| | | | .6148 | .6255 | .58875 | .6090 | .6255 | .58555 | .58905 | .5645 | .59325 | .5725 | |
| 5/8-20 or 0.625-20 | UN | 2A | .6147 | .6237 | .59120 | .6086 | .6237 | .58690 | .59250 | .5710 | .59810 | .5820 | 2B |
| | | | .6142 | .6242 | .59105 | .6081 | .6242 | .58705 | .59265 | .5705 | .59795 | .5815 | |
| | | 3A | .6160 | .6250 | .59250 | .6110 | .6250 | .58930 | .59250 | .5710 | .59670 | .5787 | 3B |
| | | | .6155 | .6255 | .59235 | .6105 | .6255 | .58945 | .59265 | .5705 | .59655 | .5782 | |
| 5/8-24 or 0.625-24 | UNEF | 2A | .6159 | .6238 | .59670 | .6107 | .6238 | .59270 | .59790 | .5800 | .60310 | .5900 | 2B |
| | | | .6154 | .6243 | .59655 | .6102 | .6243 | .59285 | .59805 | .5795 | .60295 | .5895 | |
| | | 3A | .6171 | .6250 | .59790 | .6129 | .6250 | .59490 | .59790 | .5800 | .60180 | .5869 | 3B |
| | | | .6166 | .6255 | .59775 | .6124 | .6255 | .59505 | .59805 | .5795 | .60165 | .5864 | |
| 5/8-28 or 0.625-28 | UN | 2A | .6168 | .6239 | .60070 | .6124 | .6239 | .59690 | .60180 | .5860 | .60670 | .5950 | 2B |
| | | | .6163 | .6244 | .60055 | .6119 | .6244 | .59705 | .60195 | .5855 | .60655 | .5945 | |
| | | 3A | .6179 | .6250 | .60180 | .6145 | .6250 | .59900 | .60180 | .5860 | .60550 | .5926 | 3B |
| | | | .6174 | .6255 | .60165 | .6140 | .6255 | .59915 | .60195 | .5855 | .60535 | .5921 | |
| 5/8-32 or 0.625-32 | UN | 2A | .6174 | .6239 | .60360 | .6135 | .6239 | .60000 | .60470 | .5910 | .60930 | .5990 | 2B |
| | | | .6169 | .6244 | .60345 | .6130 | .6244 | .60015 | .60485 | .5905 | .60915 | .5985 | |
| | | 3A | .6185 | .6250 | .60470 | .6155 | .6250 | .60200 | .60470 | .5910 | .60820 | .5969 | 3B |
| | | | .6180 | .6255 | .60455 | .6150 | .6255 | .60215 | .60485 | .5905 | .60805 | .5964 | |
| 11/16-12 or 0.6875-12 | UN | 2A | .6730 | .6859 | .6318 | .6625 | .6859 | .6264 | .6334 | .5970 | .6405 | .6150 | 2B |
| | | | .6724 | .6865 | .6316 | .6619 | .6865 | .6266 | .6336 | .5964 | .6403 | .6144 | |
| | | 3A | .6746 | .6875 | .6334 | .6654 | .6875 | .6293 | .6334 | .5970 | .6387 | .6085 | 3B |
| | | | .6740 | .6881 | .6332 | .6648 | .6881 | .6295 | .6336 | .5964 | .6385 | .6079 | |
| 11/16-16 or 0.6875-16 | UN | 2A | .6756 | .6861 | .6455 | .6678 | .6861 | .6407 | .6469 | .6200 | .6531 | .6340 | 2B |
| | | | .6750 | .6867 | .6453 | .6672 | .6867 | .6409 | .6471 | .6194 | .6529 | .6334 | |
| | | 3A | .6770 | .6875 | .6469 | .6704 | .6875 | .6433 | .6469 | .6200 | .6515 | .6284 | 3B |
| | | | .6764 | .6881 | .6467 | .6698 | .6881 | .6435 | .6471 | .6194 | .6513 | .6278 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 11/16-20 or 0.6875-20 | UN | 2A | 0.6772 | 0.6862 | 0.65370 | 0.6711 | 0.6862 | 0.64940 | 0.65500 | 0.6330 | 0.66060 | 0.6450 | 2B |
| | | | .6767 | .6867 | .65355 | .6706 | .6867 | .64955 | .65515 | .6325 | .66045 | .6445 | |
| | | 3A | .6785 | .6875 | .65500 | .6735 | .6875 | .65180 | .65500 | .6330 | .65920 | .6412 | 3B |
| | | | .6780 | .6880 | .65485 | .6730 | .6880 | .65195 | .65515 | .6325 | .65905 | .6407 | |
| 11/16-24 or 0.6875-24 | UNEF | 2A | .6784 | .6863 | .65920 | .6732 | .6863 | .65520 | .66040 | .6420 | .66560 | .6520 | 2B |
| | | | .6779 | .6868 | .65905 | .6727 | .6868 | .65535 | .66055 | .6415 | .66545 | .6515 | |
| | | 3A | .6796 | .6875 | .66040 | .6754 | .6875 | .65740 | .66040 | .6420 | .66430 | .6494 | 3B |
| | | | .6791 | .6880 | .66025 | .6749 | .6880 | .65755 | .66055 | .6415 | .66415 | .6489 | |
| 11/16-28 or 0.6875-28 | UN | 2A | .6793 | .6864 | .66320 | .6749 | .6862 | .65940 | .66430 | .6490 | .66920 | .6570 | 2B |
| | | | .6788 | .6869 | .66305 | .6744 | .6867 | .65955 | .66445 | .6485 | .66905 | .6565 | |
| | | 3A | .6804 | .6875 | .66430 | .6770 | .6875 | .66150 | .66430 | .6490 | .66800 | .6551 | 3B |
| | | | .6799 | .6880 | .66415 | .6765 | .6880 | .66165 | .66445 | .6485 | .66785 | .6546 | |
| 11/16-32 or 0.6875-32 | UN | 2A | .6799 | .6864 | .66610 | .6760 | .6864 | .66250 | .66720 | .6540 | .67180 | .6610 | 2B |
| | | | .6794 | .6869 | .66595 | .6755 | .6869 | .66265 | .66735 | .6535 | .67165 | .6605 | |
| | | 3A | .6810 | .6875 | .66720 | .6780 | .6875 | .66450 | .66720 | .6540 | .67070 | .6594 | 3B |
| | | | .6805 | .6880 | .66705 | .6775 | .6880 | .66465 | .66735 | .6535 | .67055 | .6589 | |
| 3/4-10 or 0.750-10 | UNC | 1A | .7336 | .7482 | .6832 | .7177 | .7482 | .6744 | .6850 | .6420 | .6965 | .6630 | 1B |
| | | | .7330 | .7488 | .6830 | .7171 | .7488 | .6746 | .6852 | .6414 | .6963 | .6624 | |
| | | 2A | .7336 | .7482 | .6832 | .7206 | .7482 | .6773 | .6850 | .6420 | .6927 | .6630 | 2B |
| | | | .7330 | .7488 | .6830 | .7200 | .7488 | .6775 | .6852 | .6414 | .6925 | .6624 | |
| | | 3A | .7354 | .7500 | .6850 | .7239 | .7500 | .6806 | .6850 | .6420 | .6907 | .6545 | 3B |
| | | | .7348 | .7506 | .6848 | .7233 | .7506 | .6808 | .6852 | .6414 | .6905 | .6539 | |
| 3/4-12 or 0.750-12 | UN | 2A | .7354 | .7483 | .6942 | .7248 | .7483 | .6887 | .6959 | .6600 | .7031 | .6780 | 2B |
| | | | .7348 | .7489 | .6940 | .7242 | .7489 | .6889 | .6961 | .6594 | .7029 | .6774 | |
| | | 3A | .7371 | .7500 | .6959 | .7279 | .7500 | .6918 | .6959 | .6600 | .7013 | .6707 | 3B |
| | | | .7365 | .7506 | .6957 | .7273 | .7506 | .6920 | .6961 | .6594 | .7011 | .6701 | |
| 3/4-16 or 0.750-16 | UNF | 1A | .7380 | .7485 | .7079 | .7275 | .7485 | .7004 | .7094 | .6820 | .7192 | .6960 | 1B |
| | | | .7374 | .7491 | .7077 | .7269 | .7491 | .7006 | .7096 | .6814 | .7190 | .6954 | |
| | | 2A | .7380 | .7485 | .7079 | .7300 | .7485 | .7029 | .7094 | .6820 | .7159 | .6960 | 2B |
| | | | .7374 | .7491 | .7077 | .7294 | .7491 | .7031 | .7096 | .6814 | .7157 | .6954 | |
| | | 3A | .7395 | .7500 | .7094 | .7327 | .7500 | .7056 | .7094 | .6820 | .7143 | .6908 | 3B |
| | | | .7389 | .7506 | .7092 | .7321 | .7506 | .7058 | .7096 | .6814 | .7141 | .6902 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 3/4-20 or 0.750-20 | UNEF | 2A | 0.7397 | 0.7487 | 0.71620 | 0.7335 | 0.7487 | 0.71180 | 0.71750 | 0.6960 | 0.72320 | 0.7070 | 2B |
| | | | .7392 | .7492 | .71605 | .7330 | .7492 | .71195 | .71765 | .6955 | .72305 | .7065 | |
| | | 3A | .7410 | .7500 | .71750 | .7359 | .7500 | .71420 | .71750 | .6960 | .72180 | .7037 | 3B |
| | | | .7405 | .7505 | .71735 | .7354 | .7505 | .71435 | .71765 | .6955 | .72165 | .7032 | |
| 3/4-28 or 0.750-28 | UN | 2A | .7417 | .7488 | .72560 | .7373 | .7488 | .72180 | .72680 | .7110 | .73180 | .7200 | 2B |
| | | | .7412 | .7493 | .72545 | .7368 | .7493 | .72195 | .72695 | .7105 | .73165 | .7195 | |
| | | 3A | .7429 | .7500 | .72680 | .7394 | .7500 | .72390 | .72680 | .7110 | .73050 | .7176 | 3B |
| | | | .7424 | .7505 | .72665 | .7389 | .7505 | .72405 | .72695 | .7105 | .73035 | .7171 | |
| 3/4-32 or 0.750-32 | UN | 2A | .7424 | .7489 | .72860 | .7385 | .7489 | .72500 | .72970 | .7160 | .73440 | .7240 | 2B |
| | | | .7419 | .7494 | .72845 | .7380 | .7494 | .72515 | .72985 | .7155 | .73425 | .7235 | |
| | | 3A | .7435 | .7500 | .72970 | .7405 | .7500 | .72700 | .72970 | .7160 | .73330 | .7219 | 3B |
| | | | .7430 | .7505 | .72955 | .7400 | .7505 | .72715 | .72985 | .7155 | .73315 | .7214 | |
| 13/16-12 or 0.8125-12 | UN | 2A | .7979 | .8108 | .7567 | .7873 | .8108 | .7512 | .7584 | .7220 | .7656 | .7400 | 2B |
| | | | .7973 | .8114 | .7565 | .7867 | .8114 | .7514 | .7586 | .7214 | .7654 | .7394 | |
| | | 3A | .7996 | .8125 | .7584 | .7904 | .8125 | .7543 | .7584 | .7220 | .7638 | .7329 | 3B |
| | | | .7990 | .8131 | .7582 | .7898 | .8131 | .7545 | .7586 | .7214 | .7636 | .7323 | |
| 13/16-16 or 0.8125-16 | UN | 2A | .8005 | .8110 | .7704 | .7926 | .8110 | .7655 | .7719 | .7450 | .7782 | .7590 | 2B |
| | | | .7999 | .8116 | .7702 | .7920 | .8116 | .7657 | .7721 | .7444 | .7780 | .7584 | |
| | | 3A | .8020 | .8125 | .7719 | .7954 | .8125 | .7683 | .7719 | .7450 | .7766 | .7533 | 3B |
| | | | .8014 | .8131 | .7717 | .7948 | .8131 | .7685 | .7721 | .7444 | .7764 | .7527 | |
| 13/16-20 or 0.8125-20 | UNEF | 2A | .8022 | .8112 | .77870 | .7960 | .8112 | .77430 | .78000 | .7580 | .78570 | .7700 | 2B |
| | | | .8017 | .8117 | .77855 | .7955 | .8117 | .77445 | .78015 | .7575 | .78555 | .7695 | |
| | | 3A | .8035 | .8125 | .78000 | .7984 | .8125 | .77670 | .78000 | .7580 | .78430 | .7662 | 3B |
| | | | .8030 | .8130 | .77985 | .7979 | .8130 | .77685 | .78015 | .7575 | .78415 | .7657 | |
| 13/16-28 or 0.8125-28 | UN | 2A | .8042 | .8113 | .78810 | .7998 | .8113 | .78430 | .78930 | .7740 | .79430 | .7820 | 2B |
| | | | .8037 | .8118 | .78795 | .7993 | .8118 | .78445 | .78945 | .7735 | .79415 | .7815 | |
| | | 3A | .8054 | .8125 | .78930 | .8019 | .8125 | .78640 | .78930 | .7740 | .79300 | .7801 | 3B |
| | | | .8049 | .8130 | .78915 | .8014 | .8130 | .78655 | .78945 | .7735 | .79285 | .7796 | |
| 13/16-32 or 0.8125-32 | UN | 2A | .8049 | .8114 | .79110 | .8010 | .8114 | .78750 | .79220 | .7790 | .79690 | .7860 | 2B |
| | | | .8044 | .8119 | .79095 | .8005 | .8119 | .78765 | .79235 | .7785 | .79675 | .7855 | |
| | | 3A | .8060 | .8125 | .79220 | .8030 | .8125 | .78950 | .79220 | .7790 | .79580 | .7844 | 3B |
| | | | .8055 | .8130 | .79205 | .8025 | .8130 | .78965 | .79235 | .7785 | .79565 | .7839 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 7/8-9 or 0.875-9 | UNC | 1A | 0.8573 | 0.8731 | 0.8009 | 0.8395 | 0.8731 | 0.7914 | 0.8028 | 0.7550 | 0.8151 | 0.7780 | 1B |
| | | | .8566 | .8738 | .8007 | .8388 | .8738 | .7916 | .8030 | .7543 | .8149 | .7773 | |
| | | 2A | .8573 | .8731 | .8009 | .8427 | .8731 | .7946 | .8028 | .7550 | .8110 | .7780 | 2B |
| | | | .8566 | .8738 | .8007 | .8420 | .8738 | .7948 | .8030 | .7543 | .8108 | .7773 | |
| | | 3A | .8592 | .8750 | .8028 | .8462 | .8750 | .7981 | .8028 | .7550 | .8089 | .7681 | 3B |
| | | | .8585 | .8757 | .8026 | .8455 | .8757 | .7983 | .8030 | .7543 | .8087 | .7674 | |
| 7/8-12 or 0.875-12 | UN | 2A | .8604 | .8733 | .8192 | .8498 | .8733 | .8137 | .8209 | .7850 | .8281 | .8030 | 2B |
| | | | .8598 | .8739 | .8190 | .8492 | .8739 | .8139 | .8211 | .7844 | .8279 | .8024 | |
| | | 3A | .8621 | .8750 | .8209 | .8529 | .8750 | .8168 | .8209 | .7850 | .8263 | .7948 | 3B |
| | | | .8615 | .8756 | .8207 | .8523 | .8756 | .8170 | .8211 | .7844 | .8261 | .7942 | |
| 7/8-14 or 0.875-14 | UNF | 1A | .8619 | .8734 | .8270 | .8498 | .8734 | .8189 | .8286 | .7980 | .8392 | .8140 | 1B |
| | | | .8613 | .8740 | .8268 | .8492 | .8740 | .8191 | .8288 | .7974 | .8390 | .8134 | |
| | | 2A | .8619 | .8734 | .8270 | .8525 | .8734 | .8216 | .8286 | .7980 | .8356 | .8140 | 2B |
| | | | .8613 | .8740 | .8268 | .8519 | .8740 | .8218 | .8288 | .7974 | .8354 | .8134 | |
| | | 3A | .8635 | .8750 | .8286 | .8554 | .8750 | .8245 | .8286 | .7980 | .8339 | .8068 | 3B |
| | | | .8629 | .8756 | .8284 | .8548 | .8756 | .8247 | .8288 | .7974 | .8337 | .8062 | |
| 7/8-16 or 0.875-16 | UN | 2A | .8630 | .8735 | .8329 | .8551 | .8735 | .8280 | .8344 | .8070 | .8407 | .8210 | 2B |
| | | | .8624 | .8741 | .8327 | .8545 | .8741 | .8282 | .8346 | .8064 | .8405 | .8204 | |
| | | 3A | .8645 | .8750 | .8344 | .8579 | .8750 | .8308 | .8344 | .8070 | .8391 | .8158 | 3B |
| | | | .8639 | .8756 | .8342 | .8573 | .8756 | .8310 | .8346 | .8064 | .8389 | .8152 | |
| 7/8-20 or 0.875-20 | UNEF | 2A | .8647 | .8737 | .84120 | .8585 | .8737 | .83680 | .84250 | .8210 | .84820 | .8320 | 2B |
| | | | .8642 | .8742 | .84105 | .8580 | .8742 | .83695 | .84265 | .8205 | .84805 | .8315 | |
| | | 3A | .8660 | .8750 | .84250 | .8609 | .8750 | .83920 | .84250 | .8210 | .84680 | .8287 | 3B |
| | | | .8655 | .8755 | .84235 | .8604 | .8755 | .83935 | .84265 | .8205 | .84665 | .8282 | |
| 7/8-28 or 0.875-28 | UN | 2A | .8667 | .8738 | .85060 | .8623 | .8738 | .84680 | .85180 | .8360 | .85680 | .8450 | 2B |
| | | | .8662 | .8743 | .85045 | .8613 | .8743 | .84695 | .85195 | .8355 | .85665 | .8445 | |
| | | 3A | .8679 | .8750 | .85180 | .8644 | .8750 | .84890 | .85180 | .8360 | .85550 | .8426 | 3B |
| | | | .8674 | .8755 | .85165 | .8639 | .8755 | .84905 | .85195 | .8355 | .85535 | .8421 | |
| 7/8-32 or 0.875-32 | UN | 2A | .8674 | .8739 | .85360 | .8635 | .8739 | .85000 | .85470 | .8410 | .85940 | .8490 | 2B |
| | | | .8669 | .8744 | .85345 | .8630 | .8744 | .85015 | .85485 | .8405 | .85925 | .8485 | |
| | | 3A | .8685 | .8750 | .85470 | .8655 | .8750 | .85200 | .85470 | .8410 | .85830 | .8469 | 3B |
| | | | .8680 | .8755 | .85455 | .8650 | .8755 | .85215 | .85485 | .8405 | .85815 | .8464 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 15/16-12 or 0.9375-12 | UN | 2A | 0.9229 | 0.9358 | 0.8817 | 0.9121 | 0.9358 | 0.8760 | 0.8834 | 0.8470 | 0.8908 | 0.8650 | B |
| | | | .9223 | .9364 | .8815 | .9115 | .9364 | .8762 | .8836 | .8464 | .8906 | .8644 | |
| | | 3A | .9246 | .9375 | .8834 | .9153 | .9375 | .8792 | .8834 | .8470 | .8889 | .8575 | 3B |
| | | | .9240 | .9381 | .8832 | .9147 | .9381 | .8794 | .8836 | .8464 | .8887 | .8569 | |
| 15/16-16 or 0.9375-16 | UN | 2A | .9255 | .9360 | .8954 | .9175 | .9360 | .8904 | .8969 | .8700 | .9034 | .8840 | 2B |
| | | | .9249 | .9366 | .8952 | .9169 | .9366 | .8906 | .8971 | .8694 | .9032 | .8834 | |
| | | 3A | .9270 | .9375 | .8969 | .9203 | .9375 | .8932 | .8969 | .8700 | .9018 | .8783 | 3B |
| | | | .9264 | .9381 | .8967 | .9197 | .9381 | .8934 | .8971 | .8694 | .9016 | .8777 | |
| 15/16-20 or 0.9375-20 | UNEF | 2A | .9271 | .9361 | .90360 | .9208 | .9361 | .89910 | .90500 | .8830 | .91090 | .8950 | 2B |
| | | | .9266 | .9366 | .90345 | .9203 | .9366 | .89925 | .90515 | .8825 | .91075 | .8945 | |
| | | 3A | .9285 | .9375 | .90500 | .9233 | .9375 | .90160 | .90500 | .8830 | .90940 | .8912 | 3B |
| | | | .9280 | .9380 | .90485 | .9228 | .9380 | .90175 | .90515 | .8825 | .90925 | .8907 | |
| 15/16-28 or 0.9375-28 | UN | 2A | .9292 | .9363 | .91310 | .9246 | .9363 | .90910 | .91430 | .8990 | .91950 | .9070 | 2B |
| | | | .9287 | .9368 | .91295 | .9241 | .9368 | .90925 | .91445 | .8985 | .91935 | .9065 | |
| | | 3A | .9304 | .9375 | .91430 | .9268 | .9375 | .91130 | .91430 | .8990 | .91820 | .9051 | 3B |
| | | | .9299 | .9380 | .91415 | .9263 | .9380 | .91145 | .91445 | .8985 | .91805 | .9046 | |
| 15/16-32 or 0.9375-32 | UN | 2A | .9299 | .9364 | .91610 | .9258 | .9364 | .91230 | .91720 | .9040 | .92210 | .9110 | 2B |
| | | | .9294 | .9369 | .91595 | .9253 | .9369 | .91245 | .91735 | .9035 | .92195 | .9105 | |
| | | 3A | .9310 | .9375 | .91720 | .9279 | .9375 | .91440 | .91720 | .9040 | .92090 | .9094 | 3B |
| | | | .9305 | .9380 | .91705 | .9274 | .9380 | .91455 | .91735 | .9035 | .92075 | .9089 | |
| 1-8 or 1.000-8 | UNC | 1A | .9809 | .9980 | .9168 | .9608 | .9980 | .9067 | .9188 | .8650 | .9320 | .8900 | 1B |
| | | | .9802 | .9987 | .9166 | .9601 | .9987 | .9069 | .9190 | .8643 | .9318 | .8893 | |
| | | 2A | .9809 | .9980 | .9168 | .9641 | .9980 | .9100 | .9188 | .8650 | .9276 | .8900 | 2B |
| | | | .9802 | .9987 | .9166 | .9634 | .9987 | .9102 | .9190 | .8643 | .9274 | .8893 | |
| | | 3A | .9829 | 1.0000 | .9188 | .9678 | 1.0000 | .9137 | .9188 | .8650 | .9254 | .8797 | 3B |
| | | | .9822 | 1.0007 | .9186 | .9671 | 1.0007 | .9139 | .9190 | .8643 | .9252 | .8790 | |
| 1-12 or 1.000-12 | UNF | 1A | .9853 | .9982 | .9441 | .9714 | .9982 | .9353 | .9459 | .9100 | .9573 | .9280 | 1B |
| | | | .9847 | .9988 | .9439 | .9708 | .9988 | .9355 | .9961 | .9094 | .9571 | .9274 | |
| | | 2A | .9853 | .9982 | .9441 | .9743 | .9982 | .9382 | .9459 | .9100 | .9535 | .9280 | 2B |
| | | | .9847 | .9988 | .9439 | .9737 | .9988 | .9384 | .9461 | .9094 | .9533 | .9274 | |
| | | 3A | .9871 | 1.0000 | .9459 | .9776 | 1.0000 | .9415 | .9459 | .9100 | .9516 | .9198 | 3B |
| | | | .9865 | 1.0006 | .9457 | .9770 | 1.0006 | .9417 | .9461 | .9094 | .9514 | .9192 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1-16 or 1.000-16 | UN | 2A | 0.9880 | 0.9985 | 0.9579 | 0.9800 | 0.9985 | 0.9529 | 0.9594 | 0.9320 | 0.9659 | 0.9460 | 2B |
| | | | .9874 | .9991 | .9577 | .9794 | .9991 | .9531 | .9596 | .9314 | .9657 | .9454 | |
| | | 3A | .9895 | 1.0000 | .9594 | .9828 | 1.0000 | .9557 | .9594 | .9320 | .9643 | .9408 | 3B |
| | | | .9889 | 1.0006 | .9592 | .9822 | 1.0006 | .9559 | .9596 | .9314 | .9641 | .9402 | |
| 1-20 or 1.000-20 | UNEF | 2A | .9896 | .9986 | .96610 | .9833 | .9986 | .96160 | .96750 | .9460 | .97340 | .9570 | 2B |
| | | | .9891 | .9991 | .96595 | .9828 | .9991 | .96175 | .96765 | .9455 | .97325 | .9565 | |
| | | 3A | .9910 | 1.0000 | .96750 | .9858 | 1.0000 | .96410 | .96750 | .9460 | .97190 | .9537 | 3B |
| | | | .9905 | 1.0005 | .96735 | .9853 | 1.0005 | .96425 | .96765 | .9455 | .97175 | .9532 | |
| 1-28 or 1.000-28 | UN | 2A | .9917 | .9988 | .97560 | .9871 | .9988 | .97160 | .97680 | .9610 | .98200 | .9700 | 2B |
| | | | .9912 | .9993 | .97545 | .9866 | .9993 | .97175 | .97695 | .9605 | .98185 | .9695 | |
| | | 3A | .9929 | 1.0000 | .97680 | .9893 | 1.0000 | .97380 | .97680 | .9610 | .98070 | .9676 | 3B |
| | | | .9924 | 1.0005 | .97665 | .9888 | 1.0005 | .97395 | .97695 | .9605 | .98055 | .9671 | |
| 1-32 or 1.000-32 | UN | 2A | .9924 | .9989 | .97860 | .9883 | .9989 | .97480 | .97970 | .9660 | .98460 | .9740 | 2B |
| | | | .9919 | .9994 | .97845 | .9878 | .9994 | .97495 | .97985 | .9655 | .98445 | .9735 | |
| | | 3A | .9935 | 1.0000 | .97970 | .9904 | 1.0000 | .97690 | .97970 | .9660 | .98340 | .9719 | 3B |
| | | | .9930 | 1.0005 | .97955 | .9899 | 1.0005 | .97705 | .97985 | .9655 | .98325 | .9714 | |
| 1 1/16-8 or 1.0625-8 | UN | 2A | 1.0434 | 1.0605 | .9793 | 1.0266 | 1.0605 | .9725 | .9813 | .9270 | .9902 | .9520 | 2B |
| | | | 1.0427 | 1.0612 | .9791 | 1.0259 | 1.0612 | .9727 | .9815 | .9263 | .9900 | .9513 | |
| | | 3A | 1.0454 | 1.0625 | .9813 | 1.0303 | 1.0625 | .9762 | .9813 | .9270 | .9880 | .9422 | 3B |
| | | | 1.0447 | 1.0632 | .9811 | 1.0296 | 1.0632 | .9764 | .9815 | .9263 | .9878 | .9415 | |
| 1 1/16-12 or 1.0625-12 | UN | 2A | 1.0479 | 1.0608 | 1.0067 | 1.0371 | 1.0608 | 1.0010 | 1.0084 | .9720 | 1.0158 | .9900 | 2B |
| | | | 1.0473 | 1.0614 | 1.0065 | 1.0365 | 1.0614 | 1.0012 | 1.0086 | .9714 | 1.0156 | .9894 | |
| | | 3A | 1.0496 | 1.0625 | 1.0084 | 1.0403 | 1.0625 | 1.0042 | 1.0084 | .9720 | 1.0139 | .9823 | 3B |
| | | | 1.0490 | 1.0631 | 1.0082 | 1.0397 | 1.0631 | 1.0044 | 1.0086 | .9714 | 1.0137 | .9817 | |
| 1 1/16-16 or 1.0625-16 | UN | 2A | 1.0505 | 1.0610 | 1.0204 | 1.0425 | 1.0610 | 1.0154 | 1.0219 | .9950 | 1.0284 | 1.0090 | 2B |
| | | | 1.0499 | 1.0616 | 1.0202 | 1.0419 | 1.0616 | 1.0156 | 1.0221 | .9944 | 1.0282 | 1.0084 | |
| | | 3A | 1.0520 | 1.0625 | 1.0219 | 1.0453 | 1.0625 | 1.0182 | 1.0219 | .9950 | 1.0268 | 1.0033 | 3B |
| | | | 1.0514 | 1.0631 | 1.0217 | 1.0447 | 1.0631 | 1.0184 | 1.0221 | .9944 | 1.0266 | 1.0027 | |
| 1 1/16-18 or 1.0625-18 | UNEF | 2A | 1.0514 | 1.0611 | 1.02500 | 1.0444 | 1.0611 | 1.02030 | 1.02640 | 1.0020 | 1.03260 | 1.0150 | 2B |
| | | | 1.0509 | 1.0616 | 1.02485 | 1.0439 | 1.0616 | 1.02045 | 1.02655 | 1.0015 | 1.03245 | 1.0145 | |
| | | 3A | 1.0528 | 1.0625 | 1.02640 | 1.0469 | 1.0625 | 1.02280 | 1.02640 | 1.0020 | 1.03100 | 1.0105 | 3B |
| | | | 1.0523 | 1.0630 | 1.02625 | 1.0464 | 1.0630 | 1.02295 | 1.02655 | 1.0015 | 1.03085 | 1.0100 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1 1/16-20 or 1.0625-20 | UN | 2A | 1.0521 | 1.0611 | 1.02860 | 1.0458 | 1.0611 | 1.02410 | 1.03000 | 1.0080 | 1.03590 | 1.0200 | 2B |
| | | | 1.0516 | 1.0616 | 1.02845 | 1.0453 | 1.0616 | 1.02425 | 1.03015 | 1.0075 | 1.03575 | 1.0195 | |
| | | 3A | 1.0535 | 1.0625 | 1.03000 | 1.0483 | 1.0625 | 1.02660 | 1.03000 | 1.0080 | 1.03440 | 1.0162 | 3B |
| | | | 1.0530 | 1.0630 | 1.02985 | 1.0478 | 1.0630 | 1.02675 | 1.03015 | 1.0075 | 1.03425 | 1.0157 | |
| 1 1/16-28 or 1.0625-28 | UN | 2A | 1.0542 | 1.0613 | 1.03810 | 1.0496 | 1.0613 | 1.03410 | 1.03930 | 1.0240 | 1.04450 | 1.0320 | 2B |
| | | | 1.0537 | 1.0618 | 1.03795 | 1.0491 | 1.0618 | 1.03425 | 1.03945 | 1.0235 | 1.04435 | 1.0315 | |
| | | 3A | 1.0554 | 1.0625 | 1.03930 | 1.0518 | 1.0625 | 1.03630 | 1.03930 | 1.0240 | 1.04320 | 1.0301 | 3B |
| | | | 1.0549 | 1.0630 | 1.03915 | 1.0513 | 1.0630 | 1.03645 | 1.03945 | 1.0235 | 1.04305 | 1.0296 | |
| 1 1/8-7 or 1.125-7 | UNC | 1A | 1.1040 | 1.1228 | 1.0300 | 1.0810 | 1.1228 | 1.0191 | 1.0322 | .9700 | 1.0463 | .9980 | 1B |
| | | | 1.1033 | 1.1235 | 1.0298 | 1.0803 | 1.1235 | 1.0193 | 1.0324 | .9693 | 1.0461 | .9973 | |
| | | 2A | 1.1040 | 1.1228 | 1.0300 | 1.0847 | 1.1228 | 1.0228 | 1.0322 | .9700 | 1.0416 | .9980 | 2B |
| | | | 1.1033 | 1.1235 | 1.0298 | 1.0840 | 1.1235 | 1 0230 | 1.0324 | .9693 | 1.0414 | .9973 | |
| | | 3A | 1.1062 | 1.1250 | 1.0322 | 1.0887 | 1.1250 | 1.0268 | 1.0322 | .9700 | 1.0393 | .9875 | 3B |
| | | | 1.1055 | 1.1257 | 1.0320 | 1.0880 | 1.1257 | 1.0270 | 1.0324 | .9693 | 1.0391 | .9868 | |
| 1 1/8-8 or 1.125-8 | UN | 2A | 1.1058 | 1.1229 | 1.0417 | 1.0889 | 1.1229 | 1.0348 | 1.0438 | .9900 | 1.0528 | 1.0150 | 2B |
| | | | 1.1051 | 1.1236 | 1.0415 | 1.0882 | 1.1236 | 1.0350 | 1.0440 | .9893 | 1.0526 | 1.0143 | |
| | | 3A | 1.1079 | 1.1250 | 1.0438 | 1.0927 | 1.1250 | 1.0386 | 1.0438 | .9900 | 1.0505 | 1.0047 | 3B |
| | | | 1.1072 | 1.1257 | 1.0436 | 1.0920 | 1.1257 | 1.0388 | 1.0440 | .9893 | 1.0503 | 1.0040 | |
| 1 1/8-12 or 1.125-12 | UNF | 1A | 1.1103 | 1.1232 | 1.0691 | 1.0962 | 1.1232 | 1.0601 | 1.0709 | 1.0350 | 1.0826 | 1.0530 | 1B |
| | | | 1.1097 | 1.1238 | 1.0689 | 1.0956 | 1.1238 | 1.0603 | 1.0711 | 1.0344 | 1.0824 | 1.0524 | |
| | | 2A | 1.1103 | 1.1232 | 1.0691 | 1.0992 | 1.1232 | 1.0631 | 1.0709 | 1.0350 | 1.0787 | 1.0530 | 2B |
| | | | 1.1097 | 1.1238 | 1.0689 | 1.0986 | 1.1238 | 1.0633 | 1.0711 | 1.0344 | 1.0785 | 1.0524 | |
| | | 3A | 1.1121 | 1.1250 | 1.0709 | 1.1025 | 1.1250 | 1.0664 | 1.0709 | 1.0350 | 1.0768 | 1.0448 | 3B |
| | | | 1.1115 | 1.1256 | 1.0707 | 1.1019 | 1.1256 | 1.0666 | 1.0711 | 1.0344 | 1.0766 | 1.0442 | |
| 1 1/8-16 or 1.125-16 | UN | 2A | 1.1130 | 1.1235 | 1.0829 | 1.1050 | 1.1235 | 1.0779 | 1.0844 | 1.0570 | 1.0909 | 1.0710 | 2B |
| | | | 1.1124 | 1.1241 | 1.0827 | 1.1044 | 1.1241 | 1.0781 | 1.0846 | 1.0564 | 1.0907 | 1.0704 | |
| | | 3A | 1.1145 | 1.1250 | 1.0844 | 1.1078 | 1.1250 | 1.0807 | 1.0844 | 1.0570 | 1.0893 | 1.0658 | 3B |
| | | | 1.1139 | 1.1256 | 1.0842 | 1.1072 | 1.1256 | 1.0809 | 1.0846 | 1.0564 | 1.0891 | 1.0652 | |
| 1 1/8-18 or 1.125-18 | UNEF | 2A | 1.1139 | 1.1236 | 1.08750 | 1.1069 | 1.1236 | 1.08280 | 1.08890 | 1.0650 | 1.09510 | 1.0780 | 2B |
| | | | 1.1134 | 1.1241 | 1.08735 | 1.1064 | 1.1241 | 1.08295 | 1.08905 | 1.0645 | 1.09495 | 1.0775 | |
| | | 3A | 1.1153 | 1.1250 | 1.08890 | 1.1094 | 1.1250 | 1.08530 | 1.08890 | 1.0650 | 1.09350 | 1.0730 | 3B |
| | | | 1.1148 | 1.1255 | 1.08875 | 1.1089 | 1.1255 | 1.08545 | 1.08905 | 1.0645 | 1.09335 | 1.0725 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1⅛-20 or 1.125-20 | UN | 2A | 1.1146 | 1.1236 | 1.09110 | 1.1083 | 1.1236 | 1.08660 | 1.09250 | 1.0710 | 1.09840 | 1.0820 | 2B |
| | | | 1.1141 | 1.1241 | 1.09095 | 1.1078 | 1.1241 | 1.08675 | 1.09265 | 1.0705 | 1.09825 | 1.0815 | |
| | | 3A | 1.1160 | 1.1250 | 1.09250 | 1.1108 | 1.1250 | 1.08910 | 1.09250 | 1.0710 | 1.09690 | 1.0787 | 3B |
| | | | 1.1155 | 1.1255 | 1.09235 | 1.1103 | 1.1255 | 1.08925 | 1.09265 | 1.0705 | 1.09675 | 1.0782 | |
| 1⅛-28 or 1.125-28 | UN | 2A | 1.1167 | 1.1238 | 1.10060 | 1.1121 | 1.1238 | 1.09660 | 1.10180 | 1.0860 | 1.10700 | 1.0950 | 2B |
| | | | 1.1162 | 1.1243 | 1.10045 | 1.1116 | 1.1243 | 1.09675 | 1.10195 | 1.0855 | 1.10685 | 1.0945 | |
| | | 3A | 1.1179 | 1.1250 | 1.10180 | 1.1143 | 1.1250 | 1.09880 | 1.10180 | 1.0860 | 1.10570 | 1.0926 | 3B |
| | | | 1.1174 | 1.1255 | 1.10165 | 1.1138 | 1.1255 | 1.09895 | 1.10195 | 1.0855 | 1.10555 | 1.0921 | |
| 1³⁄₁₆-8 or 1.1875-8 | UN | 2A | 1.1683 | 1.1854 | 1.1042 | 1.1513 | 1.1854 | 1.0972 | 1.1063 | 1.0520 | 1.1154 | 1.0770 | 2B |
| | | | 1.1676 | 1.1861 | 1.1040 | 1.1506 | 1.1861 | 1.0974 | 1.1065 | 1.0513 | 1.1152 | 1.0763 | |
| | | 3A | 1.1704 | 1.1875 | 1.1063 | 1.1552 | 1.1875 | 1.1011 | 1.1063 | 1.0520 | 1.1131 | 1.0672 | 3B |
| | | | 1.1697 | 1.1882 | 1.1061 | 1.1545 | 1.1882 | 1.1013 | 1.1065 | 1.0513 | 1.1129 | 1.0665 | |
| 1³⁄₁₆-12 or 1.1875-12 | UN | 2A | 1.1729 | 1.1858 | 1.1317 | 1.1620 | 1.1858 | 1.1259 | 1.1334 | 1.0970 | 1.1409 | 1.1150 | 2B |
| | | | 1.1723 | 1.1864 | 1.1315 | 1.1614 | 1.1864 | 1.1261 | 1.1336 | 1.0964 | 1.1407 | 1.1144 | |
| | | 3A | 1.1746 | 1.1875 | 1.1334 | 1.1652 | 1.1875 | 1.1291 | 1.1334 | 1.0970 | 1.1390 | 1.1073 | 3B |
| | | | 1.1740 | 1.1881 | 1.1332 | 1.1646 | 1.1881 | 1.1293 | 1.1336 | 1.0964 | 1.1388 | 1.1067 | |
| 1³⁄₁₆-16 or 1.1875-16 | UN | 2A | 1.1755 | 1.1860 | 1.1454 | 1.1674 | 1.1860 | 1.1403 | 1.1469 | 1.1200 | 1.1535 | 1.1340 | 2B |
| | | | 1.1749 | 1.1866 | 1.1452 | 1.1668 | 1.1866 | 1.1405 | 1.1471 | 1.1194 | 1.1533 | 1.1334 | |
| | | 3A | 1.1770 | 1.1875 | 1.1469 | 1.1702 | 1.1875 | 1.1431 | 1.1469 | 1.1200 | 1.1519 | 1.1283 | 3B |
| | | | 1.1764 | 1.1881 | 1.1467 | 1.1696 | 1.1881 | 1.1433 | 1.1471 | 1.1194 | 1.1517 | 1.1277 | |
| 1³⁄₁₆-18 or 1.1875-18 | UNEF | 2A | 1.1763 | 1.1860 | 1.14990 | 1.1691 | 1.1860 | 1.14500 | 1.15140 | 1.1270 | 1.15770 | 1.1400 | 2B |
| | | | 1.1758 | 1.1865 | 1.14975 | 1.1686 | 1.1865 | 1.14515 | 1.15155 | 1.1265 | 1.15755 | 1.1395 | |
| | | 3A | 1.1778 | 1.1875 | 1.15140 | 1.1719 | 1.1875 | 1.14780 | 1.15140 | 1.1270 | 1.15610 | 1.1355 | 3B |
| | | | 1.1773 | 1.1880 | 1.15125 | 1.1714 | 1.1880 | 1.14795 | 1.15155 | 1.1265 | 1.15595 | 1.1350 | |
| 1³⁄₁₆-20 or 1.1875-20 | UN | 2A | 1.1771 | 1.1861 | 1.15360 | 1.1706 | 1.1861 | 1.14890 | 1.15500 | 1.1330 | 1.16110 | 1.1450 | 2B |
| | | | 1.1766 | 1.1866 | 1.15345 | 1.1701 | 1.1866 | 1.14905 | 1.15515 | 1.1325 | 1.16095 | 1.1445 | |
| | | 3A | 1.1785 | 1.1875 | 1.15500 | 1.1732 | 1.1875 | 1.15150 | 1.15500 | 1.1330 | 1.15950 | 1.1412 | 3B |
| | | | 1.1780 | 1.1880 | 1.15485 | 1.1727 | 1.1880 | 1.15165 | 1.15515 | 1.1325 | 1.15935 | 1.1407 | |
| 1³⁄₁₆-28 or 1.1875-28 | UN | 2A | 1.1792 | 1.1863 | 1.16310 | 1.1745 | 1.1863 | 1.15900 | 1.16430 | 1.1490 | 1.16960 | 1.1570 | 2B |
| | | | 1.1787 | 1.1868 | 1.16295 | 1.1740 | 1.1868 | 1.15915 | 1.16445 | 1.1485 | 1.16945 | 1.1565 | |
| | | 3A | 1.1804 | 1.1875 | 1.16430 | 1.1767 | 1.1875 | 1.16120 | 1.16430 | 1.1490 | 1.16830 | 1.1551 | 3B |
| | | | 1.1799 | 1.1880 | 1.16415 | 1.1762 | 1.1880 | 1.16135 | 1.16445 | 1.1485 | 1.16815 | 1.1546 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1¼-7 or 1.250-7 | UNC | 1A | 1.2290 | 1.2478 | 1.1550 | 1.2058 | 1.2478 | 1.1439 | 1.1572 | 1.0950 | 1.1716 | 1.1230 | 1B |
| | | | 1.2283 | 1.2485 | 1.1548 | 1.2051 | 1.2485 | 1.1441 | 1.1574 | 1.0943 | 1.1714 | 1.1223 | |
| | | 2A | 1.2290 | 1.2478 | 1.1550 | 1.2095 | 1.2478 | 1.1476 | 1.1572 | 1.0950 | 1.1668 | 1.1230 | 2B |
| | | | 1.2283 | 1.2485 | 1.1548 | 1.2088 | 1.2485 | 1.1478 | 1.1574 | 1.0943 | 1.1666 | 1.1223 | |
| | | 3A | 1.2312 | 1.2500 | 1.1572 | 1.2136 | 1.2500 | 1.1517 | 1.1572 | 1.0950 | 1.1644 | 1.1125 | 3B |
| | | | 1.2305 | 1.2507 | 1.1570 | 1.2129 | 1.2507 | 1.1519 | 1.1574 | 1.0943 | 1.1642 | 1.1118 | |
| 1¼-8 or 1.250-8 | UN | 2A | 1.2308 | 1.2479 | 1.1667 | 1.2138 | 1.2479 | 1.1597 | 1.1688 | 1.1150 | 1.1780 | 1.1400 | 2B |
| | | | 1.2301 | 1.2486 | 1.1665 | 1.2131 | 1.2486 | 1.1599 | 1.1690 | 1.1143 | 1.1778 | 1.1393 | |
| | | 3A | 1.2329 | 1.2500 | 1.1688 | 1.2176 | 1.2500 | 1.1635 | 1.1688 | 1.1150 | 1.1757 | 1.1297 | 3B |
| | | | 1.2322 | 1.2507 | 1.1686 | 1.2169 | 1.2507 | 1.1637 | 1.1690 | 1.1143 | 1.1755 | 1.1290 | |
| 1¼-12 or 1.250-12 | UNF | 1A | 1.2353 | 1.2482 | 1.1941 | 1.2210 | 1.2482 | 1.1849 | 1.1959 | 1.1600 | 1.2079 | 1.1780 | 1B |
| | | | 1.2347 | 1.2488 | 1.1939 | 1.2204 | 1.2488 | 1.1851 | 1.1961 | 1.1594 | 1.2077 | 1.1774 | |
| | | 2A | 1.2353 | 1.2482 | 1.1941 | 1.2240 | 1.2482 | 1.1879 | 1.1959 | 1.1600 | 1.2039 | 1.1780 | 2B |
| | | | 1.2347 | 1.2488 | 1.1939 | 1.2234 | 1.2488 | 1.1881 | 1.1961 | 1.1594 | 1.2037 | 1.1774 | |
| | | 3A | 1.2371 | 1.2500 | 1.1959 | 1.2274 | 1.2500 | 1.1913 | 1.1959 | 1.1600 | 1.2019 | 1.1698 | 3B |
| | | | 1.2365 | 1.2506 | 1.1957 | 1.2268 | 1.2506 | 1.1915 | 1.1961 | 1.1594 | 1.2017 | 1.1692 | |
| 1¼-16 or 1.250-16 | UN | 2A | 1.2380 | 1.2485 | 1.2079 | 1.2299 | 1.2485 | 1.2028 | 1.2094 | 1.1820 | 1.2160 | 1.1960 | 2B |
| | | | 1.2374 | 1.2491 | 1.2077 | 1.2293 | 1.2491 | 1.2030 | 1.2096 | 1.1814 | 1.2158 | 1.1954 | |
| | | 3A | 1.2395 | 1.2500 | 1.2094 | 1.2327 | 1.2500 | 1.2056 | 1.2094 | 1.1820 | 1.2144 | 1.1908 | 3B |
| | | | 1.2389 | 1.2506 | 1.2092 | 1.2321 | 1.2506 | 1.2058 | 1.2096 | 1.1814 | 1.2142 | 1.1902 | |
| 1¼-18 or 1.250-18 | UNEF | 2A | 1.2388 | 1.2485 | 1.21240 | 1.2316 | 1.2485 | 1.20750 | 1.21390 | 1.1900 | 1.22020 | 1.2030 | 2B |
| | | | 1.2383 | 1.2490 | 1.21225 | 1.2311 | 1.2490 | 1.20765 | 1.21405 | 1.1895 | 1.22005 | 1.2025 | |
| | | 3A | 1.2403 | 1.2500 | 1.21390 | 1.2344 | 1.2500 | 1.21030 | 1.21390 | 1.1900 | 1.21860 | 1.1980 | 3B |
| | | | 1.2398 | 1.2505 | 1.21375 | 1.2339 | 1.2505 | 1.21045 | 1.21405 | 1.1895 | 1.21845 | 1.1975 | |
| 1¼-20 or 1.250-20 | UN | 2A | 1.2396 | 1.2486 | 1.21610 | 1.2331 | 1.2486 | 1.21140 | 1.21750 | 1.1960 | 1.22360 | 1.2070 | 2B |
| | | | 1.2391 | 1.2491 | 1.21595 | 1.2326 | 1.2491 | 1.21155 | 1.21765 | 1.1955 | 1.22345 | 1.2065 | |
| | | 3A | 1.2410 | 1.2500 | 1.21750 | 1.2357 | 1.2500 | 1.21400 | 1.21750 | 1.1960 | 1.22200 | 1.2037 | 3B |
| | | | 1.2405 | 1.2505 | 1.21735 | 1.2352 | 1.2505 | 1.21415 | 1.21765 | 1.1955 | 1.22185 | 1.2032 | |
| 1¼-28 or 1.250-28 | UN | 2A | 1.2417 | 1.2488 | 1.22560 | 1.2370 | 1.2488 | 1.22150 | 1.22680 | 1.2110 | 1.23210 | 1.2200 | 2B |
| | | | 1.2412 | 1.2493 | 1.22545 | 1.2365 | 1.2493 | 1.22165 | 1.22695 | 1.2105 | 1.23195 | 1.2195 | |
| | | 3A | 1.2429 | 1.2500 | 1.22680 | 1.2392 | 1.2500 | 1.22370 | 1.22680 | 1.2110 | 1.23080 | 1.2176 | 3B |
| | | | 1.2424 | 1.2505 | 1.22665 | 1.2387 | 1.2505 | 1.22385 | 1.22695 | 1.2105 | 1.23065 | 1.2171 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1 5/16-8 or 1.3125-8 | UN | 2A | 1.2933 | 1.3104 | 1.2292 | 1.2762 | 1.3104 | 1.2221 | 1.2313 | 1.1770 | 1.2405 | 1.2020 | 2B |
| | | | 1.2926 | 1.3111 | 1.2290 | 1.2755 | 1.3111 | 1.2223 | 1.2315 | 1.1763 | 1.2403 | 1.2013 | |
| | | 3A | 1.2954 | 1.3125 | 1.2313 | 1.2801 | 1.3125 | 1.2260 | 1.2313 | 1.1770 | 1.2382 | 1.1922 | 3B |
| | | | 1.2947 | 1.3132 | 1.2311 | 1.2794 | 1.3132 | 1.2262 | 1.2315 | 1.1763 | 1.2380 | 1.1915 | |
| 1 5/16-12 or 1.3125-12 | UN | 2A | 1.2979 | 1.3108 | 1.2567 | 1.2870 | 1.3108 | 1.2509 | 1.2584 | 1.2220 | 1.2659 | 1.2400 | 2B |
| | | | 1.2973 | 1.3114 | 1.2565 | 1.2864 | 1.3114 | 1.2511 | 1.2586 | 1.2214 | 1.2657 | 1.2394 | |
| | | 3A | 1.2996 | 1.3125 | 1.2584 | 1.2902 | 1.3125 | 1.2541 | 1.2584 | 1.2220 | 1.2640 | 1.2323 | 3B |
| | | | 1.2990 | 1.3131 | 1.2582 | 1.2896 | 1.3131 | 1.2543 | 1.2586 | 1.2214 | 1.2638 | 1.2317 | |
| 1 5/16-16 or 1.3125-16 | UN | 2A | 1.3005 | 1.3110 | 1.2704 | 1.2924 | 1.3110 | 1.2653 | 1.2719 | 1.2450 | 1.2785 | 1.2590 | 2B |
| | | | 1.2999 | 1.3116 | 1.2702 | 1.2918 | 1.3116 | 1.2655 | 1.2721 | 1.2444 | 1.2783 | 1.2584 | |
| | | 3A | 1.3020 | 1.3125 | 1.2719 | 1.2952 | 1.3125 | 1.2681 | 1.2719 | 1.2450 | 1.2769 | 1.2533 | 3B |
| | | | 1.3014 | 1.3131 | 1.2717 | 1.2946 | 1.3131 | 1.2683 | 1.2721 | 1.2444 | 1.2767 | 1.2527 | |
| 1 5/16-18 or 1.3125-18 | UNEF | 2A | 1.3013 | 1.3110 | 1.27490 | 1.2941 | 1.3110 | 1.27000 | 1.27640 | 1.2520 | 1.28270 | 1.2650 | 2B |
| | | | 1.3008 | 1.3115 | 1.27475 | 1.2936 | 1.3115 | 1.27015 | 1.27655 | 1.2515 | 1.28255 | 1.2645 | |
| | | 3A | 1.3028 | 1.3125 | 1.27640 | 1.2969 | 1.3125 | 1.27280 | 1.27640 | 1.2520 | 1.28110 | 1.2605 | 3B |
| | | | 1.3023 | 1.3130 | 1.27625 | 1.2964 | 1.3130 | 1.27295 | 1.27655 | 1.2515 | 1.28095 | 1.2600 | |
| 1 5/16-20 or 1.3125-20 | UN | 2A | 1.3021 | 1.3111 | 1.27860 | 1.2956 | 1.3111 | 1.27390 | 1.28000 | 1.2580 | 1.28610 | 1.2700 | 2B |
| | | | 1.3016 | 1.3116 | 1.27845 | 1.2951 | 1.3116 | 1.27405 | 1.28015 | 1.2575 | 1.28595 | 1.2695 | |
| | | 3A | 1.3035 | 1.3125 | 1.28000 | 1.2982 | 1.3125 | 1.27650 | 1.28000 | 1.2580 | 1.28450 | 1.2662 | 3B |
| | | | 1.3030 | 1.3130 | 1.27985 | 1.2977 | 1.3130 | 1.27665 | 1.28015 | 1.2575 | 1.28435 | 1.2657 | |
| 1 5/16-28 or 1.3125-28 | UN | 2A | 1.3042 | 1.3113 | 1.28810 | 1.2995 | 1.3113 | 1.28400 | 1.28930 | 1.2740 | 1.29460 | 1.2820 | 2B |
| | | | 1.3037 | 1.3118 | 1.28795 | 1.2990 | 1.3118 | 1.28415 | 1.28945 | 1.2735 | 1.29445 | 1.2815 | |
| | | 3A | 1.3054 | 1.3125 | 1.28930 | 1.3017 | 1.3125 | 1.28620 | 1.28930 | 1.2740 | 1.29330 | 1.2801 | 3B |
| | | | 1.3049 | 1.3130 | 1.28915 | 1.3012 | 1.3130 | 1.28635 | 1.28945 | 1.2735 | 1.29315 | 1.2796 | |
| 1 3/8-6 or 1.375-6 | UNC | 1A | 1.3516 | 1.3726 | 1.2643 | 1.3245 | 1.3726 | 1.2523 | 1.2667 | 1.1950 | 1.2822 | 1.2250 | 1B |
| | | | 1.3508 | 1.3734 | 1.2641 | 1.3237 | 1.3734 | 1.2525 | 1.2669 | 1.1942 | 1.2820 | 1.2242 | |
| | | 2A | 1.3516 | 1.3726 | 1.2643 | 1.3285 | 1.3726 | 1.2563 | 1.2667 | 1.1950 | 1.2771 | 1.2250 | 2B |
| | | | 1.3508 | 1.3734 | 1.2641 | 1.3277 | 1.3734 | 1.2565 | 1.2669 | 1.1942 | 1.2769 | 1.2242 | |
| | | 3A | 1.3540 | 1.3750 | 1.2667 | 1.3329 | 1.3750 | 1.2607 | 1.2267 | 1.1950 | 1.2745 | 1.2146 | 3B |
| | | | 1.3532 | 1.3758 | 1.2665 | 1.3321 | 1.3758 | 1.2609 | 1.2269 | 1.1942 | 1.2743 | 1.2138 | |
| 1 3/8-8 or 1.375-8 | UN | 2A | 1.3557 | 1.3728 | 1.2916 | 1.3385 | 1.3728 | 1.2844 | 1.2938 | 1.2400 | 1.3031 | 1.2650 | 2B |
| | | | 1.3550 | 1.3735 | 1.2914 | 1.3378 | 1.3735 | 1.2846 | 1.2940 | 1.2393 | 1.3029 | 1.2643 | |
| | | 3A | 1.3579 | 1.3750 | 1.2938 | 1.3425 | 1.3750 | 1.2884 | 1.2938 | 1.2400 | 1.3008 | 1.2547 | 3B |
| | | | 1.3572 | 1.3757 | 1.2936 | 1.3418 | 1.3757 | 1.2886 | 1.2940 | 1.2393 | 1.3006 | 1.2540 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1⅜-12 or 1.375-12 | UNF | 1A | 1.3602 | 1.3731 | 1.3190 | 1.3457 | 1.3731 | 1.3096 | 1.3209 | 1.2850 | 1.3332 | 1.3030 | 1B |
| | | | 1.3596 | 1.3737 | 1.3188 | 1.3451 | 1.3737 | 1.3098 | 1.3211 | 1.2844 | 1.3330 | 1.3024 | |
| | | 2A | 1.3602 | 1.3731 | 1.3190 | 1.3488 | 1.3731 | 1.3127 | 1.3209 | 1.2850 | 1.3291 | 1.3030 | 2B |
| | | | 1.3596 | 1.3737 | 1.3188 | 1.3482 | 1.3737 | 1.3129 | 1.3211 | 1.2844 | 1.3289 | 1.3024 | |
| | | 3A | 1.3621 | 1.3750 | 1.3209 | 1.3523 | 1.3750 | 1.3162 | 1.3209 | 1.2850 | 1.3270 | 1.2948 | 3B |
| | | | 1.3615 | 1.3756 | 1.3207 | 1.3517 | 1.3756 | 1.3164 | 1.3211 | 1.2844 | 1.3268 | 1.2942 | |
| 1⅜-16 or 1.375-16 | UN | 2A | 1.3630 | 1.3735 | 1.3329 | 1.3549 | 1.3735 | 1.3278 | 1.3344 | 1.3070 | 1.3410 | 1.3210 | 2B |
| | | | 1.3624 | 1.3741 | 1.3327 | 1.3543 | 1.3741 | 1.3280 | 1.3346 | 1.3064 | 1.3408 | 1.3204 | |
| | | 3A | 1.3645 | 1.3750 | 1.3344 | 1.3577 | 1.3750 | 1.3306 | 1.3344 | 1.3070 | 1.3394 | 1.3158 | 3B |
| | | | 1.3639 | 1.3756 | 1.3342 | 1.3571 | 1.3756 | 1.3308 | 1.3346 | 1.3064 | 1.3392 | 1.3152 | |
| 1⅜-18 or 1.375-18 | UNEF | 2A | 1.3638 | 1.3735 | 1.33740 | 1.3566 | 1.3735 | 1.33250 | 1.33890 | 1.3150 | 1.34520 | 1.3280 | 2B |
| | | | 1.3633 | 1.3740 | 1.33725 | 1.3561 | 1.3740 | 1.33265 | 1.33905 | 1.3145 | 1.34505 | 1.3275 | |
| | | 3A | 1.3653 | 1.3750 | 1.33890 | 1.3594 | 1.3750 | 1.33530 | 1.33890 | 1.3150 | 1.34360 | 1.3230 | 3B |
| | | | 1.3648 | 1.3755 | 1.33875 | 1.3589 | 1.3755 | 1.33545 | 1.33905 | 1.3145 | 1.34345 | 1.3225 | |
| 1⅜-20 or 1.375-20 | UN | 2A | 1.3646 | 1.3736 | 1.34110 | 1.3581 | 1.3736 | 1.33640 | 1.34250 | 1.3210 | 1.34860 | 1.3320 | 2B |
| | | | 1.3641 | 1.3741 | 1.34095 | 1.3576 | 1.3741 | 1.33655 | 1.34265 | 1.3205 | 1.34845 | 1.3315 | |
| | | 3A | 1.3660 | 1.3750 | 1.34250 | 1.3607 | 1.3750 | 1.33900 | 1.34250 | 1.3210 | 1.34700 | 1.3287 | 3B |
| | | | 1.3655 | 1.3755 | 1.34235 | 1.3602 | 1.3755 | 1.33915 | 1.34265 | 1.3205 | 1.34685 | 1.3282 | |
| 1⅜-28 or 1.375-28 | UN | 2A | 1.3667 | 1.3738 | 1.35060 | 1.3620 | 1.3738 | 1.34650 | 1.35180 | 1.3360 | 1.35710 | 1.3450 | 2B |
| | | | 1.3662 | 1.3743 | 1.35045 | 1.3615 | 1.3743 | 1.34665 | 1.35195 | 1.3355 | 1.35695 | 1.3445 | |
| | | 3A | 1.3679 | 1.3750 | 1.35180 | 1.3642 | 1.3750 | 1.34870 | 1.35180 | 1.3360 | 1.35580 | 1.3426 | 3B |
| | | | 1.3674 | 1.3755 | 1.35165 | 1.3637 | 1.3755 | 1.34885 | 1.35195 | 1.3355 | 1.35565 | 1.3421 | |
| 1⁷⁄₁₆-6 or 1.4375-6 | UN | 2A | 1.4141 | 1.4351 | 1.3268 | 1.3910 | 1.4351 | 1.3188 | 1.3292 | 1.2570 | 1.3396 | 1.2880 | 2B |
| | | | 1.4133 | 1.4359 | 1.3266 | 1.3902 | 1.4359 | 1.3190 | 1.3294 | 1.2562 | 1.3394 | 1.2872 | |
| | | 3A | 1.4165 | 1.4375 | 1.3292 | 1.3954 | 1.4375 | 1.3232 | 1.3292 | 1.2570 | 1.3370 | 1.2771 | 3B |
| | | | 1.4157 | 1.4383 | 1.3290 | 1.3946 | 1.4383 | 1.3234 | 1.3294 | 1.2562 | 1.3368 | 1.2763 | |
| 1⁷⁄₁₆-8 or 1.4375-8 | UN | 2A | 1.4182 | 1.4353 | 1.3541 | 1.4010 | 1.4353 | 1.3469 | 1.3563 | 1.3020 | 1.3657 | 1.3270 | 2B |
| | | | 1.4175 | 1.4360 | 1.3539 | 1.4003 | 1.4360 | 1.3471 | 1.3565 | 1.3013 | 1.3655 | 1.3263 | |
| | | 3A | 1.4204 | 1.4375 | 1.3563 | 1.4050 | 1.4375 | 1.3509 | 1.3563 | 1.3020 | 1.3634 | 1.3172 | 3B |
| | | | 1.4197 | 1.4382 | 1.3561 | 1.4043 | 1.4382 | 1.3511 | 1.3565 | 1.3013 | 1.3632 | 1.3165 | |
| 1⁷⁄₁₆-12 or 1.4375-12 | UN | 2A | 1.4228 | 1.4357 | 1.3816 | 1.4118 | 1.4357 | 1.3757 | 1.3834 | 1.3470 | 1.3910 | 1.3650 | 2B |
| | | | 1.4222 | 1.4363 | 1.3814 | 1.4112 | 1.4363 | 1.3759 | 1.3836 | 1.3464 | 1.3908 | 1.3644 | |
| | | 3A | 1.4246 | 1.4375 | 1.3834 | 1.4151 | 1.4375 | 1.3790 | 1.3834 | 1.3470 | 1.3891 | 1.3573 | 3B |
| | | | 1.4240 | 1.4381 | 1.3832 | 1.4145 | 1.4381 | 1.3792 | 1.3836 | 1.3464 | 1.3889 | 1.3567 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1 7/16-16 or 1.4375-16 | UN | 2A | 1.4254 | 1.4359 | 1.3953 | 1.4172 | 1.4359 | 1.3901 | 1.3969 | 1.3700 | 1.4037 | 1.3840 | 2B |
| | | | 1.4248 | 1.4365 | 1.3951 | 1.4166 | 1.4365 | 1.3903 | 1.3971 | 1.3694 | 1.4035 | 1.3834 | |
| | | 3A | 1.4270 | 1.4375 | 1.3969 | 1.4201 | 1.4375 | 1.3930 | 1.3969 | 1.3700 | 1.4020 | 1.3783 | 3B |
| | | | 1.4264 | 1.4381 | 1.3967 | 1.4195 | 1.4381 | 1.3932 | 1.3971 | 1.3694 | 1.4018 | 1.3777 | |
| 1 7/16-18 or 1.4375-18 | UNEF | 2A | 1.4263 | 1.4360 | 1.39990 | 1.4190 | 1.4360 | 1.39490 | 1.40140 | 1.3770 | 1.40790 | 1.3900 | 2B |
| | | | 1.4258 | 1.4365 | 1.39975 | 1.4185 | 1.4365 | 1.39505 | 1.40155 | 1.3765 | 1.40775 | 1.3895 | |
| | | 3A | 1.4278 | 1.4375 | 1.40140 | 1.4218 | 1.4375 | 1.39770 | 1.40140 | 1.3770 | 1.40620 | 1.3855 | 3B |
| | | | 1.4273 | 1.4380 | 1.40125 | 1.4213 | 1.4380 | 1.39785 | 1.40155 | 1.3765 | 1.40605 | 1.3850 | |
| 1 7/16-20 or 1.4375-20 | UN | 2A | 1.4271 | 1.4361 | 1.40360 | 1.4205 | 1.4361 | 1.39880 | 1.40500 | 1.3830 | 1.41120 | 1.3950 | 2B |
| | | | 1.4266 | 1.4366 | 1.40345 | 1.4200 | 1.4366 | 1.39895 | 1.40515 | 1.3825 | 1.41105 | 1.3945 | |
| | | 3A | 1.4285 | 1.4375 | 1.40500 | 1.4231 | 1.4375 | 1.40140 | 1.40500 | 1.3830 | 1.40960 | 1.3912 | 3B |
| | | | 1.4280 | 1.4380 | 1.40485 | 1.4226 | 1.4380 | 1.40155 | 1.40515 | 1.3825 | 1.40945 | 1.3907 | |
| 1 7/16-28 or 1.4375-28 | UN | 2A | 1.4291 | 1.4362 | 1.41300 | 1.4243 | 1.4362 | 1.40880 | 1.41430 | 1.3990 | 1.41980 | 1.4070 | 2B |
| | | | 1.4286 | 1.4367 | 1.41285 | 1.4238 | 1.4367 | 1.40895 | 1.41445 | 1.3985 | 1.41965 | 1.4065 | |
| | | 3A | 1.4304 | 1.4375 | 1.41430 | 1.4267 | 1.4375 | 1.41120 | 1.41430 | 1.3990 | 1.41840 | 1.4051 | 3B |
| | | | 1.4299 | 1.4380 | 1.41415 | 1.4262 | 1.4380 | 1.41135 | 1.41445 | 1.3985 | 1.41825 | 1.4046 | |
| 1 1/2-6 or 1.500-6 | UNC | 1A | 1.4766 | 1.4976 | 1.3893 | 1.4494 | 1.4976 | 1.3772 | 1.3917 | 1.3200 | 1.4075 | 1.3500 | 1B |
| | | | 1.4758 | 1.4984 | 1.3891 | 1.4486 | 1.4984 | 1.3774 | 1.3919 | 1.3192 | 1.4073 | 1.3492 | |
| | | 2A | 1.4766 | 1.4976 | 1.3893 | 1.4534 | 1.4976 | 1.3812 | 1.3917 | 1.3200 | 1.4022 | 1.3500 | 2B |
| | | | 1.4758 | 1.4984 | 1.3891 | 1.4526 | 1.4984 | 1.3814 | 1.3919 | 1.3192 | 1.4020 | 1.3492 | |
| | | 3A | 1.4790 | 1.5000 | 1.3917 | 1.4578 | 1.5000 | 1.3856 | 1.3917 | 1.3200 | 1.3996 | 1.3396 | 3B |
| | | | 1.4782 | 1.5008 | 1.3915 | 1.4570 | 1.5008 | 1.3858 | 1.3919 | 1.3192 | 1.3994 | 1.3388 | |
| 1 1/2-8 or 1.500-8 | UN | 2A | 1.4807 | 1.4978 | 1.4166 | 1.4634 | 1.4978 | 1.4093 | 1.4188 | 1.3650 | 1.4283 | 1.3900 | 2B |
| | | | 1.4800 | 1.4985 | 1.4164 | 1.4627 | 1.4985 | 1.4095 | 1.4190 | 1.3643 | 1.4281 | 1.3893 | |
| | | 3A | 1.4829 | 1.5000 | 1.4188 | 1.4674 | 1.5000 | 1.4133 | 1.4188 | 1.3650 | 1.4259 | 1.3797 | 3B |
| | | | 1.4822 | 1.5007 | 1.4186 | 1.4667 | 1.5007 | 1.4135 | 1.4190 | 1.3643 | 1.4257 | 1.3790 | |
| 1 1/2-12 or 1.500-12 | UNF | 1A | 1.4852 | 1.4981 | 1.4440 | 1.4705 | 1.4981 | 1.4344 | 1.4459 | 1.4100 | 1.4584 | 1.4280 | 1B |
| | | | 1.4846 | 1.4987 | 1.4438 | 1.4699 | 1.4987 | 1.4346 | 1.4461 | 1.4094 | 1.4582 | 1.4274 | |
| | | 2A | 1.4852 | 1.4981 | 1.4440 | 1.4737 | 1.4981 | 1.4376 | 1.4459 | 1.4100 | 1.4542 | 1.4280 | 2B |
| | | | 1.4846 | 1.4987 | 1.4438 | 1.4731 | 1.4987 | 1.4378 | 1.4461 | 1.4094 | 1.4540 | 1.4274 | |
| | | 3A | 1.4871 | 1.5000 | 1.4459 | 1.4772 | 1.5000 | 1.4411 | 1.4459 | 1.4100 | 1.4522 | 1.4198 | 3B |
| | | | 1.4865 | 1.5006 | 1.4457 | 1.4766 | 1.5006 | 1.4413 | 1.4461 | 1.4094 | 1.4520 | 1.4192 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1½-16 or 1.500-16 | UN | 2A | 1.4879 | 1.4984 | 1.4578 | 1.4797 | 1.4984 | 1.4526 | 1.4594 | 1.4320 | 1.4662 | 1.4460 | 2B |
| | | | 1.4873 | 1.4990 | 1.4576 | 1.4791 | 1.4990 | 1.4528 | 1.4596 | 1.4314 | 1.4660 | 1.4454 | |
| | | 3A | 1.4895 | 1.5000 | 1.4594 | 1.4826 | 1.5000 | 1.4555 | 1.4594 | 1.4320 | 1.4645 | 1.4408 | 3B |
| | | | 1.4889 | 1.5006 | 1.4592 | 1.4820 | 1.5006 | 1.4557 | 1.4596 | 1.4314 | 1.4643 | 1.4402 | |
| 1½-18 or 1.500-18 | UNEF | 2A | 1.4888 | 1.4985 | 1.46240 | 1.4815 | 1.4985 | 1.45740 | 1.46390 | 1.4400 | 1.47040 | 1.4520 | 2B |
| | | | 1.4883 | 1.4990 | 1.46225 | 1.4810 | 1.4990 | 1.45755 | 1.46405 | 1.4395 | 1.47025 | 1.4515 | |
| | | 3A | 1.4903 | 1.5000 | 1.46390 | 1.4843 | 1.5000 | 1.46020 | 1.46390 | 1.4400 | 1.46870 | 1.4480 | 3B |
| | | | 1.4898 | 1.5005 | 1.46375 | 1.4838 | 1.5005 | 1.46035 | 1.46405 | 1.4395 | 1.46855 | 1.4475 | |
| 1½-20 or 1.500-20 | UN | 2A | 1.4896 | 1.4986 | 1.46610 | 1.4830 | 1.4986 | 1.46130 | 1.46750 | 1.4460 | 1.47370 | 1.4570 | 2B |
| | | | 1.4891 | 1.4991 | 1.46595 | 1.4825 | 1.4991 | 1.46145 | 1.46765 | 1.4455 | 1.47355 | 1.4565 | |
| | | 3A | 1.4910 | 1.5000 | 1.46750 | 1.4856 | 1.5000 | 1.46390 | 1.46750 | 1.4460 | 1.47210 | 1.4537 | 3B |
| | | | 1.4905 | 1.5005 | 1.46735 | 1.4851 | 1.5005 | 1.46405 | 1.46765 | 1.4455 | 1.47195 | 1.4532 | |
| 1½-28 or 1.500-28 | UN | 2A | 1.4916 | 1.4987 | 1.47550 | 1.4868 | 1.4987 | 1.47130 | 1.47680 | 1.4610 | 1.48230 | 1.4700 | 2B |
| | | | 1.4911 | 1.4992 | 1.47535 | 1.4863 | 1.4992 | 1.47145 | 1.47695 | 1.4605 | 1.48215 | 1.4695 | |
| | | 3A | 1.4929 | 1.5000 | 1.47680 | 1.4892 | 1.5000 | 1.47370 | 1.47680 | 1.4610 | 1.48090 | 1.4676 | 3B |
| | | | 1.4924 | 1.5005 | 1.47665 | 1.4887 | 1.5005 | 1.47385 | 1.47695 | 1.4605 | 1.48075 | 1.4671 | |
| 1⁹⁄₁₆-6 or 1.5625-6 | UN | 2A | 1.5391 | 1.5601 | 1.45180 | 1.5158 | 1.5601 | 1.44360 | 1.45420 | 1.3820 | 1.46480 | 1.4130 | 2B |
| | | | 1.5383 | 1.5609 | 1.45155 | 1.5150 | 1.5609 | 1.44385 | 1.45445 | 1.3812 | 1.46455 | 1.4122 | |
| | | 3A | 1.5415 | 1.5625 | 1.45420 | 1.5203 | 1.5625 | 1.44810 | 1.45420 | 1.3820 | 1.46220 | 1.4021 | 3B |
| | | | 1.5407 | 1.5633 | 1.45395 | 1.5195 | 1.5633 | 1.44835 | 1.45445 | 1.3812 | 1.46195 | 1.4013 | |
| 1⁹⁄₁₆-8 or 1.5625-8 | UN | 2A | 1.5432 | 1.5603 | 1.47910 | 1.5258 | 1.5603 | 1.47170 | 1.48130 | 1.4270 | 1.49090 | 1.4520 | 2B |
| | | | 1.5425 | 1.5610 | 1.47885 | 1.5251 | 1.5610 | 1.47195 | 1.48155 | 1.4263 | 1.49065 | 1.4513 | |
| | | 3A | 1.5454 | 1.5625 | 1.48130 | 1.5299 | 1.5625 | 1.47580 | 1.48130 | 1.4270 | 1.48850 | 1.4422 | 3B |
| | | | 1.5447 | 1.5632 | 1.48105 | 1.5292 | 1.5632 | 1.47605 | 1.48155 | 1.4263 | 1.48825 | 1.4415 | |
| 1⁹⁄₁₆-12 or 1.5625-12 | UN | 2A | 1.5478 | 1.5607 | 1.50660 | 1.5368 | 1.5607 | 1.50070 | 1.50840 | 1.4720 | 1.51600 | 1.4900 | 2B |
| | | | 1.5472 | 1.5613 | 1.50635 | 1.5362 | 1.5613 | 1.50095 | 1.50865 | 1.4714 | 1.51575 | 1.4894 | |
| | | 3A | 1.5496 | 1.5625 | 1.50840 | 1.5401 | 1.5625 | 1.50400 | 1.50840 | 1.4720 | 1.51410 | 1.4823 | 3B |
| | | | 1.5490 | 1.5631 | 1.50815 | 1.5395 | 1.5631 | 1.50425 | 1.50865 | 1.4714 | 1.51385 | 1.4817 | |
| 1⁹⁄₁₆-16 or 1.5625-16 | UN | 2A | 1.5504 | 1.5609 | 1.52030 | 1.5422 | 1.5609 | 1.51510 | 1.52190 | 1.4950 | 1.52870 | 1.5090 | 2B |
| | | | 1.5498 | 1.5615 | 1.52005 | 1.5416 | 1.5615 | 1.51535 | 1.52215 | 1.4944 | 1.52845 | 1.5084 | |
| | | 3A | 1.5520 | 1.5625 | 1.52190 | 1.5451 | 1.5625 | 1.51800 | 1.52190 | 1.4950 | 1.52700 | 1.5033 | 3B |
| | | | 1.5514 | 1.5631 | 1.52165 | 1.5445 | 1.5631 | 1.51825 | 1.52215 | 1.4944 | 1.52675 | 1.5027 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1 9/16-18 or 1.5625-18 | UNEF | 2A | 1.5513 | 1.5610 | 1.5249 | 1.5440 | 1.5610 | 1.5199 | 1.5264 | 1.5020 | 1.5329 | 1.5150 | 2B |
| | | | 1.5508 | 1.5615 | 1.5247 | 1.5435 | 1.5615 | 1.5201 | 1.5266 | 1.5015 | 1.5327 | 1.5145 | |
| | | 3A | 1.5528 | 1.5625 | 1.5264 | 1.5468 | 1.5625 | 1.5227 | 1.5264 | 1.5020 | 1.5312 | 1.5105 | 3B |
| | | | 1.5523 | 1.5630 | 1.5262 | 1.5463 | 1.5630 | 1.5229 | 1.5266 | 1.5015 | 1.5310 | 1.5100 | |
| 1 9/16-20 or 1.5625-20 | UN | 2A | 1.5521 | 1.5611 | 1.5286 | 1.5455 | 1.5611 | 1.5238 | 1.5300 | 1.5080 | 1.5362 | 1.5200 | 2B |
| | | | 1.5516 | 1.5616 | 1.5284 | 1.5450 | 1.5616 | 1.5240 | 1.5302 | 1.5075 | 1.5360 | 1.5195 | |
| | | 3A | 1.5535 | 1.5625 | 1.5300 | 1.5481 | 1.5625 | 1.5264 | 1.5300 | 1.5080 | 1.5346 | 1.5162 | 3B |
| | | | 1.5530 | 1.5630 | 1.5298 | 1.5476 | 1.5630 | 1.5266 | 1.5302 | 1.5075 | 1.5344 | 1.5157 | |
| 1 5/8-6 or 1.625-6 | UN | 2A | 1.6015 | 1.6225 | 1.51420 | 1.5782 | 1.6225 | 1.50600 | 1.51670 | 1.4450 | 1.52740 | 1.4750 | 2B |
| | | | 1.6007 | 1.6233 | 1.51395 | 1.5774 | 1.6233 | 1.50625 | 1.51695 | 1.4442 | 1.52715 | 1.4742 | |
| | | 3A | 1.6040 | 1.6250 | 1.51670 | 1.5827 | 1.6250 | 1.51050 | 1.51670 | 1.4450 | 1.52470 | 1.4646 | 3B |
| | | | 1.6032 | 1.6258 | 1.51645 | 1.5819 | 1.6258 | 1.51075 | 1.51695 | 1.4442 | 1.52445 | 1.4638 | |
| 1 5/8-8 or 1.625-8 | UN | 2A | 1.6057 | 1.6228 | 1.54160 | 1.5883 | 1.6228 | 1.53420 | 1.54380 | 1.4900 | 1.55350 | 1.5150 | 2B |
| | | | 1.6050 | 1.6235 | 1.54135 | 1.5876 | 1.6235 | 1.53445 | 1.54405 | 1.4893 | 1.55325 | 1.5143 | |
| | | 3A | 1.6079 | 1.6250 | 1.54380 | 1.5923 | 1.6250 | 1.53820 | 1.54380 | 1.4900 | 1.55100 | 1.5047 | 3B |
| | | | 1.6072 | 1.6257 | 1.54355 | 1.5916 | 1.6257 | 1.53845 | 1.54405 | 1.4893 | 1.55075 | 1.5040 | |
| 1 5/8-12 or 1.625-12 | UN | 2A | 1.6103 | 1.6232 | 1.56910 | 1.5993 | 1.6232 | 1.56320 | 1.57090 | 1.5350 | 1.57850 | 1.5530 | 2B |
| | | | 1.6097 | 1.6238 | 1.56885 | 1.5987 | 1.6238 | 1.56345 | 1.57115 | 1.5344 | 1.57825 | 1.5524 | |
| | | 3A | 1.6121 | 1.6250 | 1.57090 | 1.6026 | 1.6250 | 1.56650 | 1.57090 | 1.5350 | 1.57660 | 1.5448 | 3B |
| | | | 1.6115 | 1.6256 | 1.57065 | 1.6020 | 1.6256 | 1.56675 | 1.57115 | 1.5344 | 1.57635 | 1.5442 | |
| 1 5/8-16 or 1.625-16 | UN | 2A | 1.6129 | 1.6234 | 1.58280 | 1.6047 | 1.6234 | 1.57760 | 1.58440 | 1.5570 | 1.59120 | 1.5710 | 2B |
| | | | 1.6123 | 1.6240 | 1.58255 | 1.6041 | 1.6240 | 1.57785 | 1.58465 | 1.5564 | 1.59095 | 1.5704 | |
| | | 3A | 1.6145 | 1.6250 | 1.58440 | 1.6076 | 1.6250 | 1.58050 | 1.58440 | 1.5570 | 1.58950 | 1.5658 | 3B |
| | | | 1.6139 | 1.6256 | 1.58415 | 1.6070 | 1.6256 | 1.58075 | 1.58465 | 1.5564 | 1.58925 | 1.5652 | |
| 1 5/8-18 or 1.625-18 | UNEF | 2A | 1.6138 | 1.6235 | 1.5874 | 1.6065 | 1.6235 | 1.5824 | 1.5889 | 1.5650 | 1.5954 | 1.5780 | 2B |
| | | | 1.6133 | 1.6240 | 1.5872 | 1.6060 | 1.6240 | 1.5826 | 1.5891 | 1.5645 | 1.5952 | 1.5775 | |
| | | 3A | 1.6153 | 1.6250 | 1.5889 | 1.6093 | 1.6250 | 1.5852 | 1.5889 | 1.5650 | 1.5937 | 1.5730 | 3B |
| | | | 1.6148 | 1.6255 | 1.5887 | 1.6088 | 1.6255 | 1.5854 | 1.5891 | 1.5645 | 1.5935 | 1.5725 | |
| 1 5/8-20 or 1.625-20 | UN | 2A | 1.6146 | 1.6236 | 1.5911 | 1.6080 | 1.6236 | 1.5863 | 1.5925 | 1.5710 | 1.5987 | 1.5820 | 2B |
| | | | 1.6141 | 1.6241 | 1.5909 | 1.6075 | 1.6241 | 1.5865 | 1.5927 | 1.5705 | 1.5985 | 1.5815 | |
| | | 3A | 1.6160 | 1.6250 | 1.5925 | 1.6106 | 1.6250 | 1.5889 | 1.5925 | 1.5710 | 1.5971 | 1.5787 | 3B |
| | | | 1.6155 | 1.6255 | 1.5923 | 1.6101 | 1.6255 | 1.5891 | 1.5927 | 1.5705 | 1.5969 | 1.5782 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1 11/16-6 or 1.6875-6 | UN | 2A | 1.6640 | 1.6850 | 1.57670 | 1.6406 | 1.6850 | 1.56840 | 1.57920 | 1.5070 | 1.59000 | 1.5380 | 2B |
| | | | 1.6632 | 1.6858 | 1.57645 | 1.6398 | 1.6858 | 1.56865 | 1.57945 | 1.5062 | 1.58975 | 1.5372 | |
| | | 3A | 1.6665 | 1.6875 | 1.57920 | 1.6452 | 1.6875 | 1.57300 | 1.57920 | 1.5070 | 1.58730 | 1.5271 | 3B |
| | | | 1.6657 | 1.6883 | 1.57895 | 1.6444 | 1.6883 | 1.57325 | 1.57945 | 1.5062 | 1.58705 | 1.5263 | |
| 1 11/16-8 or 1.6875-8 | UN | 2A | 1.6682 | 1.6853 | 1.60410 | 1.6507 | 1.6853 | 1.59660 | 1.60630 | 1.5520 | 1.61600 | 1.5770 | 2B |
| | | | 1.6675 | 1.6860 | 1.60385 | 1.6500 | 1.6860 | 1.59685 | 1.60655 | 1.5513 | 1.61575 | 1.5763 | |
| | | 3A | 1.6704 | 1.6875 | 1.60630 | 1.6548 | 1.6875 | 1.60070 | 1.60630 | 1.5520 | 1.61360 | 1.5672 | 3B |
| | | | 1.6697 | 1.6882 | 1.60605 | 1.6541 | 1.6882 | 1.60095 | 1.60655 | 1.5513 | 1.61335 | 1.5665 | |
| 1 11/16-12 or 1.6875-12 | UN | 2A | 1.6728 | 1.6857 | 1.63160 | 1.6617 | 1.6857 | 1.62560 | 1.63340 | 1.5970 | 1.64120 | 1.6150 | 2B |
| | | | 1.6722 | 1.6863 | 1.63135 | 1.6611 | 1.6863 | 1.62585 | 1.63365 | 1.5964 | 1.64095 | 1.6144 | |
| | | 3A | 1.6746 | 1.6875 | 1.63340 | 1.6650 | 1.6875 | 1.62890 | 1.63340 | 1.5970 | 1.63920 | 1.6073 | 3B |
| | | | 1.6740 | 1.6881 | 1.63315 | 1.6644 | 1.6881 | 1.62915 | 1.63365 | 1.5964 | 1.63895 | 1.6067 | |
| 1 11/16-16 or 1.6875-16 | UN | 2A | 1.6754 | 1.6859 | 1.64530 | 1.6671 | 1.6859 | 1.64000 | 1.64690 | 1.6200 | 1.65380 | 1.6340 | 2B |
| | | | 1.6748 | 1.6865 | 1.64505 | 1.6665 | 1.6865 | 1.64025 | 1.64715 | 1.6194 | 1.65355 | 1.6334 | |
| | | 3A | 1.6770 | 1.6875 | 1.64690 | 1.6700 | 1.6875 | 1.64290 | 1.64690 | 1.6200 | 1.65210 | 1.6283 | 3B |
| | | | 1.6764 | 1.6881 | 1.64665 | 1.6694 | 1.6881 | 1.64315 | 1.64715 | 1.6194 | 1.65185 | 1.6277 | |
| 1 11/16-18 or 1.6875-18 | UNEF | 2A | 1.6763 | 1.6860 | 1.6499 | 1.6689 | 1.6860 | 1.6448 | 1.6514 | 1.6270 | 1.6580 | 1.6400 | 2B |
| | | | 1.6758 | 1.6865 | 1.6497 | 1.6684 | 1.6865 | 1.6450 | 1.6516 | 1.6265 | 1.6578 | 1.6395 | |
| | | 3A | 1.6778 | 1.6875 | 1.6514 | 1.6717 | 1.6875 | 1.6476 | 1.6514 | 1.6270 | 1.6563 | 1.6355 | 3B |
| | | | 1.6773 | 1.6880 | 1.6512 | 1.6712 | 1.6880 | 1.6478 | 1.6516 | 1.6265 | 1.6561 | 1.6350 | |
| 1 11/16-20 or 1.6875-20 | UN | 2A | 1.6770 | 1.6860 | 1.6535 | 1.6704 | 1.6860 | 1.6487 | 1.6550 | 1.6330 | 1.6613 | 1.6450 | 2B |
| | | | 1.6765 | 1.6865 | 1.6533 | 1.6699 | 1.6865 | 1.6489 | 1.6552 | 1.6325 | 1.6611 | 1.6445 | |
| | | 3A | 1.6785 | 1.6875 | 1.6550 | 1.6731 | 1.6875 | 1.6514 | 1.6550 | 1.6330 | 1.6597 | 1.6412 | 3B |
| | | | 1.6780 | 1.6880 | 1.6548 | 1.6726 | 1.6880 | 1.6516 | 1.6552 | 1.6325 | 1.6595 | 1.6407 | |
| 1 3/4-5 or 1.750-5 | UNC | 1A | 1.7234 | 1.7473 | 1.61740 | 1.6906 | 1.7473 | 1.60400 | 1.62010 | 1.5340 | 1.63750 | 1.5680 | 1B |
| | | | 1.7226 | 1.7481 | 1.61715 | 1.6898 | 1.7481 | 1.60425 | 1.62035 | 1.5332 | 1.63725 | 1.5672 | |
| | | 2A | 1.7234 | 1.7473 | 1.61740 | 1.6951 | 1.7473 | 1.60850 | 1.62010 | 1.5340 | 1.63170 | 1.5680 | 2B |
| | | | 1.7226 | 1.7481 | 1.61715 | 1.6943 | 1.7481 | 1.60875 | 1.62035 | 1.5332 | 1.63145 | 1.5672 | |
| | | 3A | 1.7261 | 1.7500 | 1.62010 | 1.7000 | 1.7500 | 1.61340 | 1.62010 | 1.5340 | 1.62880 | 1.5575 | 3B |
| | | | 1.7253 | 1.7508 | 1.61985 | 1.6992 | 1.7508 | 1.61365 | 1.62035 | 1.5332 | 1.62855 | 1.5507 | |
| 1 3/4-6 or 1.750-6 | UN | 2A | 1.7265 | 1.7475 | 1.63920 | 1.7031 | 1.7475 | 1.63090 | 1.64170 | 1.5700 | 1.65250 | 1.6000 | 2B |
| | | | 1.7257 | 1.7483 | 1.63895 | 1.7023 | 1.7483 | 1.63115 | 1.64195 | 1.5692 | 1.65225 | 1.5992 | |
| | | 3A | 1.7290 | 1.7500 | 1.64170 | 1.7076 | 1.7500 | 1.63540 | 1.64170 | 1.5700 | 1.64980 | 1.5896 | 3B |
| | | | 1.7282 | 1.7508 | 1.64145 | 1.7068 | 1.7508 | 1.63565 | 1.64195 | 1.5692 | 1.64955 | 1.5888 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1¾-8 or 1.750-8 | UN | 2A | 1.7306 | 1.7477 | 1.66650 | 1.7131 | 1.7477 | 1.65900 | 1.66880 | 1.6150 | 1.67860 | 1.6400 | 2B |
| | | | 1.7299 | 1.7484 | 1.66625 | 1.7124 | 1.7484 | 1.65925 | 1.66905 | 1.6143 | 1.67835 | 1.6393 | |
| | | 3A | 1.7329 | 1.7500 | 1.66880 | 1.7172 | 1.7500 | 1.66310 | 1.66880 | 1.6150 | 1.67620 | 1.6297 | 3B |
| | | | 1.7322 | 1.7507 | 1.66855 | 1.7165 | 1.7507 | 1.66335 | 1.66905 | 1.6143 | 1.67595 | 1.6290 | |
| 1¾-12 or 1.750-12 | UN | 2A | 1.7353 | 1.7482 | 1.69410 | 1.7242 | 1.7482 | 1.68810 | 1.69590 | 1.6600 | 1.70370 | 1.6780 | 2B |
| | | | 1.7347 | 1.7488 | 1.69385 | 1.7236 | 1.7488 | 1.68835 | 1.69615 | 1.6594 | 1.70345 | 1.6774 | |
| | | 3A | 1.7371 | 1.7500 | 1.69590 | 1.7275 | 1.7500 | 1.69140 | 1.69590 | 1.6600 | 1.70170 | 1.6698 | 3B |
| | | | 1.7365 | 1.7506 | 1.69565 | 1.7269 | 1.7506 | 1.69165 | 1.69615 | 1.6594 | 1.70145 | 1.6692 | |
| 1¾-16 or 1.750-16 | UN | 2A | 1.7379 | 1.7484 | 1.70780 | 1.7296 | 1.7484 | 1.70250 | 1.70940 | 1.6820 | 1.71630 | 1.6960 | 2B |
| | | | 1.7373 | 1.7490 | 1.70755 | 1.7290 | 1.7490 | 1.70275 | 1.70965 | 1.6814 | 1.71605 | 1.6954 | |
| | | 3A | 1.7395 | 1.7500 | 1.70940 | 1.7325 | 1.7500 | 1.70540 | 1.70940 | 1.6820 | 1.71460 | 1.6908 | 3B |
| | | | 1.7389 | 1.7506 | 1.70915 | 1.7319 | 1.7506 | 1.70565 | 1.70965 | 1.6814 | 1.71435 | 1.6902 | |
| 1¾-20 or 1.750-20 | UN | 2A | 1.7395 | 1.7485 | 1.7160 | 1.7329 | 1.7485 | 1.7112 | 1.7175 | 1.6960 | 1.7238 | 1.7070 | 2B |
| | | | 1.7390 | 1.7490 | 1.7158 | 1.7324 | 1.7490 | 1.7114 | 1.7177 | 1.6955 | 1.7236 | 1.7065 | |
| | | 3A | 1.7410 | 1.7500 | 1.7175 | 1.7356 | 1.7500 | 1.7139 | 1.7175 | 1.6960 | 1.7222 | 1.7037 | 3B |
| | | | 1.7405 | 1.7505 | 1.7173 | 1.7351 | 1.7505 | 1.7141 | 1.7177 | 1.6955 | 1.7220 | 1.7032 | |
| 1 13/16-6 or 1.8125-6 | UN | 2A | 1.7890 | 1.8100 | 1.70170 | 1.7655 | 1.8100 | 1.69330 | 1.70420 | 1.6320 | 1.71510 | 1.6630 | 2B |
| | | | 1.7882 | 1.8108 | 1.70145 | 1.7647 | 1.8108 | 1.69355 | 1.70445 | 1.6312 | 1.71485 | 1.6622 | |
| | | 3A | 1.7915 | 1.8125 | 1.70420 | 1.7701 | 1.8125 | 1.69790 | 1.70420 | 1.6320 | 1.71240 | 1.6521 | 3B |
| | | | 1.7907 | 1.8133 | 1.70395 | 1.7693 | 1.8133 | 1.69815 | 1.70445 | 1.6312 | 1.71215 | 1.6513 | |
| 1 13/16-8 or 1.8125-8 | UN | 2A | 1.7931 | 1.8102 | 1.72900 | 1.7755 | 1.8102 | 1.72140 | 1.73130 | 1.6770 | 1.74120 | 1.7020 | 2B |
| | | | 1.7924 | 1.8109 | 1.72875 | 1.7748 | 1.8109 | 1.72165 | 1.73155 | 1.6763 | 1.74095 | 1.7013 | |
| | | 3A | 1.7954 | 1.8125 | 1.73130 | 1.7797 | 1.8125 | 1.72560 | 1.73130 | 1.6770 | 1.73870 | 1.6922 | 3B |
| | | | 1.7947 | 1.8132 | 1.73105 | 1.7790 | 1.8132 | 1.72585 | 1.73155 | 1.6763 | 1.73845 | 1.6915 | |
| 1 13/16-12 or 1.8125-12 | UN | 2A | 1.7978 | 1.8107 | 1.75660 | 1.7867 | 1.8107 | 1.75060 | 1.75840 | 1.7220 | 1.76620 | 1.7400 | 2B |
| | | | 1.7972 | 1.8113 | 1.75635 | 1.7861 | 1.8113 | 1.75085 | 1.75865 | 1.7214 | 1.76595 | 1.7394 | |
| | | 3A | 1.7996 | 1.8125 | 1.75840 | 1.7900 | 1.8125 | 1.75390 | 1.75840 | 1.7220 | 1.76420 | 1.7323 | 3B |
| | | | 1.7990 | 1.8131 | 1.75815 | 1.7894 | 1.8131 | 1.75415 | 1.75865 | 1.7214 | 1.76395 | 1.7317 | |
| 1 13/16-16 or 1.8125-16 | UN | 2A | 1.8004 | 1.8109 | 1.77030 | 1.7921 | 1.8109 | 1.76500 | 1.77190 | 1.7450 | 1.77880 | 1.7590 | 2B |
| | | | 1.7998 | 1.8115 | 1.77005 | 1.7915 | 1.8115 | 1.76525 | 1.77215 | 1.7444 | 1.77855 | 1.7584 | |
| | | 3A | 1.8020 | 1.8125 | 1.77190 | 1.7950 | 1.8125 | 1.76790 | 1.77190 | 1.7450 | 1.77710 | 1.7533 | 3B |
| | | | 1.8014 | 1.8131 | 1.77165 | 1.7944 | 1.8131 | 1.76815 | 1.77215 | 1.7444 | 1.77685 | 1.7527 | |
| 1 13/16-20 or 1.8125-20 | UN | 2A | 1.8020 | 1.8110 | 1.7785 | 1.7954 | 1.8110 | 1.7737 | 1.7800 | 1.7580 | 1.7863 | 1.7700 | 2B |
| | | | 1.8015 | 1.8115 | 1.7783 | 1.7949 | 1.8115 | 1.7739 | 1.7802 | 1.7575 | 1.7861 | 1.7695 | |
| | | 3A | 1.8035 | 1.8125 | 1.7800 | 1.7981 | 1.8125 | 1.7764 | 1.7800 | 1.7580 | 1.7847 | 1.7662 | 3B |
| | | | 1.8030 | 1.8130 | 1.7798 | 1.7976 | 1.8130 | 1.7766 | 1.7802 | 1.7575 | 1.7845 | 1.7657 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1⅞-6 or 1.875-6 | UN | 2A | 1.8515 | 1.8725 | 1.76420 | 1.8280 | 1.8725 | 1.75580 | 1.76670 | 1.6950 | 1.77770 | 1.7250 | 2B |
| | | | 1.8507 | 1.8733 | 1.76395 | 1.8272 | 1.8733 | 1.75605 | 1.76695 | 1.6942 | 1.77745 | 1.7242 | |
| | | 3A | 1.8540 | 1.8750 | 1.76670 | 1.8326 | 1.8750 | 1.76040 | 1.76670 | 1.6950 | 1.77490 | 1.7146 | 3B |
| | | | 1.8532 | 1.8758 | 1.76645 | 1.8318 | 1.8758 | 1.76065 | 1.76695 | 1.6942 | 1.77465 | 1.7138 | |
| 1⅞-8 or 1.875-8 | UN | 2A | 1.8556 | 1.8727 | 1.79150 | 1.8379 | 1.8727 | 1.78380 | 1.79380 | 1.7400 | 1.80380 | 1.7650 | 2B |
| | | | 1.8549 | 1.8734 | 1.79125 | 1.8372 | 1.8734 | 1.78405 | 1.79405 | 1.7393 | 1.80355 | 1.7643 | |
| | | 3A | 1.8579 | 1.8750 | 1.79380 | 1.8422 | 1.8750 | 1.78810 | 1.79380 | 1.7400 | 1.80130 | 1.7547 | 3B |
| | | | 1.8572 | 1.8757 | 1.79355 | 1.8415 | 1.8757 | 1.78835 | 1.79405 | 1.7393 | 1.80105 | 1.7540 | |
| 1⅞-12 or 1.875-12 | UN | 2A | 1.8603 | 1.8732 | 1.81910 | 1.8492 | 1.8732 | 1.81310 | 1.82090 | 1.7850 | 1.82870 | 1.8030 | 2B |
| | | | 1.8597 | 1.8738 | 1.81885 | 1.8486 | 1.8738 | 1.81335 | 1.82115 | 1.7844 | 1.82845 | 1.8024 | |
| | | 3A | 1.8621 | 1.8750 | 1.82090 | 1.8525 | 1.8750 | 1.81640 | 1.82090 | 1.7850 | 1.82670 | 1.7948 | 3B |
| | | | 1.8615 | 1.8756 | 1.82065 | 1.8519 | 1.8756 | 1.81665 | 1.82115 | 1.7844 | 1.82645 | 1.7942 | |
| 1⅞-16 or 1.875-16 | UN | 2A | 1.8629 | 1.8734 | 1.83280 | 1.8546 | 1.8734 | 1.82750 | 1.83440 | 1.8070 | 1.84130 | 1.8210 | 2B |
| | | | 1.8623 | 1.8740 | 1.83255 | 1.8540 | 1.8740 | 1.82775 | 1.83465 | 1.8064 | 1.84105 | 1.8204 | |
| | | 3A | 1.8645 | 1.8750 | 1.83440 | 1.8575 | 1.8750 | 1.83040 | 1.83440 | 1.8070 | 1.83960 | 1.8158 | 3B |
| | | | 1.8639 | 1.8756 | 1.83415 | 1.8569 | 1.8756 | 1.83065 | 1.83465 | 1.8064 | 1.83935 | 1.8152 | |
| 1⅞-20 or 1.875-20 | UN | 2A | 1.8645 | 1.8735 | 1.8410 | 1.8579 | 1.8735 | 1.8362 | 1.8425 | 1.8210 | 1.8488 | 1.8320 | 2B |
| | | | 1.8640 | 1.8740 | 1.8408 | 1.8574 | 1.8740 | 1.8364 | 1.8427 | 1.8205 | 1.8486 | 1.8315 | |
| | | 3A | 1.8660 | 1.8750 | 1.8425 | 1.8606 | 1.8750 | 1.8389 | 1.8425 | 1.8210 | 1.8472 | 1.8287 | 3B |
| | | | 1.8655 | 1.8755 | 1.8423 | 1.8601 | 1.8755 | 1.8391 | 1.8427 | 1.8205 | 1.8470 | 1.8282 | |
| 1 15/16-6 or 1.9375-6 | UN | 2A | 1.9139 | 1.9349 | 1.82660 | 1.8903 | 1.9349 | 1.81810 | 1.82920 | 1.7570 | 1.84030 | 1.7880 | 2B |
| | | | 1.9131 | 1.9357 | 1.82635 | 1.8895 | 1.9357 | 1.81835 | 1.82945 | 1.7562 | 1.84005 | 1.7872 | |
| | | 3A | 1.9165 | 1.9375 | 1.82920 | 1.8950 | 1.9375 | 1.82280 | 1.82920 | 1.7570 | 1.83750 | 1.7771 | 3B |
| | | | 1.9157 | 1.9383 | 1.82895 | 1.8942 | 1.9383 | 1.82305 | 1.82945 | 1.7562 | 1.83725 | 1.7763 | |
| 1 15/16-8 or 1.9375-8 | UN | 2A | 1.9181 | 1.9352 | 1.85400 | 1.9004 | 1.9352 | 1.84630 | 1.85630 | 1.8020 | 1.86630 | 1.8270 | 2B |
| | | | 1.9174 | 1.9359 | 1.85375 | 1.8997 | 1.9359 | 1.84655 | 1.85655 | 1.8013 | 1.86605 | 1.8263 | |
| | | 3A | 1.9204 | 1.9375 | 1.85630 | 1.9046 | 1.9375 | 1.85050 | 1.85630 | 1.8020 | 1.86380 | 1.8172 | 3B |
| | | | 1.9197 | 1.9382 | 1.85605 | 1.9039 | 1.9382 | 1.85075 | 1.85655 | 1.8013 | 1.86355 | 1.8165 | |
| 1 15/16-12 or 1.9375-12 | UN | 2A | 1.9228 | 1.9357 | 1.88160 | 1.9116 | 1.9357 | 1.87550 | 1.88340 | 1.8470 | 1.89130 | 1.8650 | 2B |
| | | | 1.9222 | 1.9363 | 1.88135 | 1.9110 | 1.9363 | 1.87575 | 1.88365 | 1.8464 | 1.89105 | 1.8644 | |
| | | 3A | 1.9246 | 1.9375 | 1.88340 | 1.9150 | 1.9375 | 1.87890 | 1.88340 | 1.8470 | 1.88930 | 1.8573 | 3B |
| | | | 1.9240 | 1.9381 | 1.88315 | 1.9144 | 1.9381 | 1.87915 | 1.88365 | 1.8464 | 1.88905 | 1.8567 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 1 15/16-16 or 1.9375-16 | UN | 2A | 1.9254 | 1.9359 | 1.89530 | 1.9170 | 1.9359 | 1.88990 | 1.89690 | 1.8700 | 1.90390 | 1.8840 | 2B |
| | | | 1.9248 | 1.9365 | 1.89505 | 1.9164 | 1.9365 | 1.89015 | 1.89715 | 1.8694 | 1.90365 | 1.8834 | |
| | | 3A | 1.9270 | 1.9375 | 1.89690 | 1.9200 | 1.9375 | 1.89290 | 1.89690 | 1.8700 | 1.90210 | 1.8783 | 3B |
| | | | 1.9264 | 1.9381 | 1.89665 | 1.9194 | 1.9381 | 1.89315 | 1.89715 | 1.8694 | 1.90185 | 1.8777 | |
| 1 15/16-20 or 1.9375-20 | UN | 2A | 1.9270 | 1.9360 | 1.9035 | 1.9203 | 1.9360 | 1.8986 | 1.9050 | 1.8830 | 1.9114 | 1.8950 | 2B |
| | | | 1.9265 | 1.9365 | 1.9033 | 1.9198 | 1.9365 | 1.8988 | 1.9052 | 1.8825 | 1.9112 | 1.8945 | |
| | | 3A | 1.9285 | 1.9375 | 1.9050 | 1.9230 | 1.9375 | 1.9013 | 1.9050 | 1.8830 | 1.9098 | 1.8912 | 3B |
| | | | 1.9280 | 1.9380 | 1.9048 | 1.9225 | 1.9380 | 1.9015 | 1.9052 | 1.8825 | 1.9096 | 1.8907 | |
| 2-4 1/2 or 2.000-4.5 | UNC | 1A | 1.9713 | 1.9971 | 1.85280 | 1.9347 | 1.9971 | 1.83850 | 1.85570 | 1.7590 | 1.87430 | 1.7950 | 1B |
| | | | 1.9705 | 1.9979 | 1.85255 | 1.9339 | 1.9979 | 1.83875 | 1.85595 | 1.7582 | 1.87405 | 1.7942 | |
| | | 2A | 1.9713 | 1.9971 | 1.85280 | 1.9395 | 1.9971 | 1.84330 | 1.85570 | 1.7590 | 1.86810 | 1.7950 | 2B |
| | | | 1.9705 | 1.9979 | 1.85255 | 1.9387 | 1.9979 | 1.84355 | 1.85595 | 1.7582 | 1.86785 | 1.7942 | |
| | | 3A | 1.9742 | 2.0000 | 1.85570 | 1.9448 | 2.0000 | 1.84860 | 1.85570 | 1.7590 | 1.86500 | 1.7861 | 3B |
| | | | 1.9734 | 2.0008 | 1.85545 | 1.9440 | 2.0008 | 1.84885 | 1.85595 | 1.7582 | 1.86475 | 1.7853 | |
| 2-6 or 2.000-6 | UN | 2A | 1.9764 | 1.9974 | 1.88910 | 1.9527 | 1.9974 | 1.88050 | 1.89170 | 1.8200 | 1.90280 | 1.8500 | 2B |
| | | | 1.9756 | 1.9982 | 1.88885 | 1.9519 | 1.9982 | 1.88075 | 1.89195 | 1.8192 | 1.90255 | 1.8492 | |
| | | 3A | 1.9790 | 2.0000 | 1.89170 | 1.9575 | 2.0000 | 1.88530 | 1.89170 | 1.8200 | 1.90000 | 1.8396 | 3B |
| | | | 1.9782 | 2.0008 | 1.89145 | 1.9567 | 2.0008 | 1.88555 | 1.89195 | 1.8192 | 1.89975 | 1.8388 | |
| 2-8 or 2.000-8 | UN | 2A | 1.9806 | 1.9977 | 1.91650 | 1.9628 | 1.9977 | 1.90870 | 1.91880 | 1.8650 | 1.92890 | 1.8900 | 2B |
| | | | 1.9799 | 1.9984 | 1.91625 | 1.9621 | 1.9984 | 1.90895 | 1.91905 | 1.8643 | 1.92865 | 1.8893 | |
| | | 3A | 1.9829 | 2.0000 | 1.91880 | 1.9671 | 2.0000 | 1.91300 | 1.91880 | 1.8650 | 1.92640 | 1.8797 | 3B |
| | | | 1.9822 | 2.0007 | 1.91855 | 1.9664 | 2.0007 | 1.91325 | 1.91905 | 1.8643 | 1.92615 | 1.8790 | |
| 2-12 or 2.000-12 | UN | 2A | 1.9853 | 1.9982 | 1.94410 | 1.9741 | 1.9982 | 1.93800 | 1.94590 | 1.9100 | 1.95380 | 1.9280 | 2B |
| | | | 1.9847 | 1.9988 | 1.94385 | 1.9735 | 1.9988 | 1.93825 | 1.94615 | 1.9094 | 1.95355 | 1.9274 | |
| | | 3A | 1.9871 | 2.0000 | 1.94590 | 1.9775 | 2.0000 | 1.94140 | 1.94590 | 1.9100 | 1.95180 | 1.9198 | 3B |
| | | | 1.9865 | 2.0006 | 1.94565 | 1.9769 | 2.0006 | 1.94165 | 1.94615 | 1.9094 | 1.95155 | 1.9192 | |
| 2-16 or 2.000-16 | UN | 2A | 1.9879 | 1.9984 | 1.95780 | 1.9795 | 1.9984 | 1.95240 | 1.95940 | 1.9320 | 1.96640 | 1.9460 | 2B |
| | | | 1.9873 | 1.9990 | 1.95755 | 1.9789 | 1.9990 | 1.95265 | 1.95965 | 1.9314 | 1.96615 | 1.9454 | |
| | | 3A | 1.9895 | 2.0000 | 1.95940 | 1.9825 | 2.0000 | 1.95540 | 1.95940 | 1.9320 | 1.96460 | 1.9408 | 3B |
| | | | 1.9889 | 2.0006 | 1.95915 | 1.9819 | 2.0006 | 1.95565 | 1.95965 | 1.9314 | 1.96435 | 1.9402 | |
| 2-20 or 2.000-20 | UN | 2A | 1.9895 | 1.9985 | 1.9660 | 1.9828 | 1.9985 | 1.9611 | 1.9675 | 1.9460 | 1.9739 | 1.9570 | 2B |
| | | | 1.9890 | 1.9990 | 1.9658 | 1.9823 | 1.9990 | 1.9613 | 1.9677 | 1.9455 | 1.9737 | 1.9565 | |
| | | 3A | 1.9910 | 2.0000 | 1.9675 | 1.9855 | 2.0000 | 1.9638 | 1.9675 | 1.9460 | 1.9723 | 1.9537 | 3B |
| | | | 1.9905 | 2.0005 | 1.9673 | 1.9850 | 2.0005 | 1.9640 | 1.9677 | 1.9455 | 1.9721 | 1.9532 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 2⅛-6 or 2.125-6 | UN | 2A | 2.1014 | 2.1224 | 2.01410 | 2.0776 | 2.1224 | 2.00540 | 2.01670 | 1.9450 | 2.02800 | 1.9750 | 2B |
| | | | 2.1006 | 2.1232 | 2.01385 | 2.0768 | 2.1232 | 2.00565 | 2.01695 | 1.9442 | 2.02775 | 1.9742 | |
| | | 3A | 2.1040 | 2.1250 | 2.01670 | 2.0824 | 2.1250 | 2.01020 | 2.01670 | 1.9450 | 2.02510 | 1.9646 | 3B |
| | | | 2.1032 | 2.1258 | 2.01645 | 2.0816 | 2.1258 | 2.01045 | 2.01695 | 1.9442 | 2.02485 | 1.9638 | |
| 2⅛-8 or 2.125-8 | UN | 2A | 2.1055 | 2.1226 | 2.04140 | 2.0876 | 2.1226 | 2.03350 | 2.04380 | 1.9900 | 2.05400 | 2.0150 | 2B |
| | | | 2.1048 | 2.1233 | 2.04115 | 2.0869 | 2.1233 | 2.03375 | 2.04405 | 1.9893 | 2.05375 | 2.0143 | |
| | | 3A | 2.1079 | 2.1250 | 2.04380 | 2.0920 | 2.1250 | 2.03790 | 2.04380 | 1.9900 | 2.05150 | 2.0047 | 3B |
| | | | 2.1072 | 2.1257 | 2.04355 | 2.0913 | 2.1257 | 2.03815 | 2.04405 | 1.9893 | 2.05125 | 2.0040 | |
| 2⅛-12 or 2.125-12 | UN | 2A | 2.1103 | 2.1232 | 2.06910 | 2.0991 | 2.1232 | 2.06300 | 2.07090 | 2.0350 | 2.07880 | 2.0530 | 2B |
| | | | 2.1097 | 2.1238 | 2.06885 | 2.0985 | 2.1238 | 2.06325 | 2.07115 | 2.0344 | 2.07855 | 2.0524 | |
| | | 3A | 2.1121 | 2.1250 | 2.07090 | 2.1025 | 2.1250 | 2.06640 | 2.07090 | 2.0350 | 2.07680 | 2.0448 | 3B |
| | | | 2.1115 | 2.1256 | 2.07065 | 2.1019 | 2.1256 | 2.06665 | 2.07115 | 2.0344 | 2.07655 | 2.0442 | |
| 2⅛-16 or 2.125-16 | UN | 2A | 2.1129 | 2.1234 | 2.08280 | 2.1045 | 2.1234 | 2.07740 | 2.08440 | 2.0570 | 2.09140 | 2.0710 | 2B |
| | | | 2.1123 | 2.1240 | 2.08255 | 2.1039 | 2.1240 | 2.07765 | 2.08465 | 2.0564 | 2.09115 | 2.0704 | |
| | | 3A | 2.1145 | 2.1250 | 2.08440 | 2.1075 | 2.1250 | 2.08040 | 2.08440 | 2.0570 | 2.08960 | 2.0658 | 3B |
| | | | 2.1139 | 2.1256 | 2.08415 | 2.1069 | 2.1256 | 2.08065 | 2.08465 | 2.0564 | 2.08935 | 2.0652 | |
| 2⅛-20 or 2.125-20 | UN | 2A | 2.1145 | 2.1235 | 2.0910 | 2.1078 | 2.1235 | 2.0861 | 2.0925 | 2.0710 | 2.0989 | 2.0820 | 2B |
| | | | 2.1140 | 2.1240 | 2.0908 | 2.1073 | 2.1240 | 2.0863 | 2.0927 | 2.0705 | 2.0987 | 2.0815 | |
| | | 3A | 2.1160 | 2.1250 | 2.0925 | 2.1105 | 2.1250 | 2.0888 | 2.0925 | 2.0710 | 2.0973 | 2.0787 | 3B |
| | | | 2.1155 | 2.1255 | 2.0923 | 2.1100 | 2.1255 | 2.0890 | 2.0927 | 2.0705 | 2.0971 | 2.0782 | |
| 2¼-4½ or 2.250-4.5 | UNC | 1A | 2.2213 | 2.2471 | 2.10280 | 2.1844 | 2.2471 | 2.08820 | 2.10570 | 2.0090 | 2.12470 | 2.0450 | 1B |
| | | | 2.2205 | 2.2479 | 2.10255 | 2.1836 | 2.2479 | 2.08845 | 2.10595 | 2.0082 | 2.12445 | 2.0442 | |
| | | 2A | 2.2213 | 2.2471 | 2.10280 | 2.1893 | 2.2471 | 2.09310 | 2.10570 | 2.0090 | 2.11830 | 2.0450 | 2B |
| | | | 2.2205 | 2.2479 | 2.10255 | 2.1885 | 2.2479 | 2.09335 | 2.10595 | 2.0082 | 2.11805 | 2.0442 | |
| | | 3A | 2.2242 | 2.2500 | 2.10570 | 2.1946 | 2.2500 | 2.09840 | 2.10570 | 2.0090 | 2.11520 | 2.0361 | 3B |
| | | | 2.2234 | 2.2508 | 2.10545 | 2.1938 | 2.2508 | 2.09865 | 2.10595 | 2.0082 | 2.11495 | 2.0353 | |
| 2¼-6 or 2.250-6 | UN | 2A | 2.2264 | 2.2474 | 2.13910 | 2.2025 | 2.2474 | 2.13030 | 2.14170 | 2.0700 | 2.15310 | 2.1000 | 2B |
| | | | 2.2256 | 2.2482 | 2.13885 | 2.2017 | 2.2482 | 2.13055 | 2.14195 | 2.0692 | 2.15285 | 2.0992 | |
| | | 3A | 2.2290 | 2.2500 | 2.14170 | 2.2073 | 2.2500 | 2.13510 | 2.14170 | 2.0700 | 2.15020 | 2.0896 | 3B |
| | | | 2.2282 | 2.2508 | 2.14145 | 2.2065 | 2.2508 | 2.13535 | 2.14195 | 2.0692 | 2.14995 | 2.0888 | |
| 2¼-8 or 2.250-8 | UN | 2A | 2.2305 | 2.2476 | 2.16640 | 2.2125 | 2.2476 | 2.15840 | 2.16880 | 2.1150 | 2.17920 | 2.1400 | 2B |
| | | | 2.2298 | 2.2483 | 2.16615 | 2.2118 | 2.2483 | 2.15865 | 2.16905 | 2.1143 | 2.17895 | 2.1393 | |
| | | 3A | 2.2329 | 2.2500 | 2.16880 | 2.2169 | 2.2500 | 2.16280 | 2.16880 | 2.1150 | 2.17660 | 2.1297 | 3B |
| | | | 2.2322 | 2.2507 | 2.16855 | 2.2162 | 2.2507 | 2.16305 | 2.16905 | 2.1143 | 2.17635 | 2.1290 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 2¼-12 or 2.250-12 | UN | 2A | 2.2353 | 2.2482 | 2.19410 | 2.2241 | 2.2482 | 2.18800 | 2.19590 | 2.1600 | 2.20380 | 2.1780 | 2B |
| | | | 2.2347 | 2.2488 | 2.19385 | 2.2235 | 2.2488 | 2.18825 | 2.19615 | 2.1594 | 2.20355 | 2.1774 | |
| | | 3A | 2.2371 | 2.2500 | 2.19590 | 2.2275 | 2.2500 | 2.19140 | 2.19590 | 2.1600 | 2.20180 | 2.1698 | 3B |
| | | | 2.2365 | 2.2506 | 2.19565 | 2.2269 | 2.2506 | 2.19165 | 2.19615 | 2.1594 | 2.20155 | 2.1692 | |
| 2¼-16 or 2.250-16 | UN | 2A | 2.2379 | 2.2484 | 2.20780 | 2.2295 | 2.2484 | 2.20240 | 2.20940 | 2.1820 | 2.21640 | 2.1960 | 2B |
| | | | 2.2373 | 2.2490 | 2.20755 | 2.2289 | 2.2490 | 2.20265 | 2.20965 | 2.1814 | 2.21615 | 2.1954 | |
| | | 3A | 2.2395 | 2.2500 | 2.20940 | 2.2325 | 2.2500 | 2.20540 | 2.20940 | 2.1820 | 2.21460 | 2.1908 | 3B |
| | | | 2.2389 | 2.2506 | 2.20915 | 2.2319 | 2.2506 | 2.20565 | 2.20965 | 2.1814 | 2.21435 | 2.1902 | |
| 2¼-20 or 2.250-20 | UN | 2A | 2.2395 | 2.2485 | 2.2160 | 2.2328 | 2.2485 | 2.2111 | 2.2175 | 2.1960 | 2.2239 | 2.2070 | 2B |
| | | | 2.2390 | 2.2490 | 2.2158 | 2.2323 | 2.2490 | 2.2113 | 2.2177 | 2.1955 | 2.2237 | 2.2065 | |
| | | 3A | 2.2410 | 2.2500 | 2.2175 | 2.2355 | 2.2500 | 2.2138 | 2.2175 | 2.1960 | 2.2223 | 2.2037 | 3B |
| | | | 2.2405 | 2.2505 | 2.2173 | 2.2350 | 2.2505 | 2.2140 | 2.2177 | 2.1955 | 2.2221 | 2.2032 | |
| 2⅜-6 or 2.375-6 | UN | 2A | 2.3513 | 2.3723 | 2.26400 | 2.3273 | 2.3723 | 2.25510 | 2.26670 | 2.1950 | 2.27820 | 2.2260 | 2B |
| | | | 2.3505 | 2.3731 | 2.26375 | 2.3265 | 2.3731 | 2.25535 | 2.26695 | 2.1942 | 2.27795 | 2.2252 | |
| | | 3A | 2.3540 | 2.3750 | 2.26670 | 2.3323 | 2.3750 | 2.26010 | 2.26670 | 2.1950 | 2.27530 | 2.2146 | 3B |
| | | | 2.3532 | 2.3758 | 2.26645 | 2.3315 | 2.3758 | 2.26035 | 2.26695 | 2.1942 | 2.27505 | 2.2138 | |
| 2⅜-8 or 2.375-8 | UN | 2A | 2.3555 | 2.3726 | 2.29140 | 2.3374 | 2.3726 | 2.28330 | 2.29380 | 2.2400 | 2.30430 | 2.2650 | 2B |
| | | | 2.3548 | 2.3733 | 2.29115 | 2.3367 | 2.3733 | 2.28355 | 2.29405 | 2.2393 | 2.30405 | 2.2643 | |
| | | 3A | 2.3579 | 2.3750 | 2.29380 | 2.3419 | 2.3750 | 2.28780 | 2.29380 | 2.2400 | 2.30170 | 2.2547 | 3B |
| | | | 2.3572 | 2.3757 | 2.29355 | 2.3412 | 2.3757 | 2.28805 | 2.29405 | 2.2393 | 2.30145 | 2.2540 | |
| 2⅜-12 or 2.375-12 | UN | 2A | 2.3602 | 2.3731 | 2.31900 | 2.3489 | 2.3731 | 2.31280 | 2.32090 | 2.2850 | 2.32900 | 2.3030 | 2B |
| | | | 2.3596 | 2.3737 | 2.31875 | 2.3483 | 2.3737 | 2.31305 | 2.32115 | 2.2844 | 2.32875 | 2.3024 | |
| | | 3A | 2.3621 | 2.3750 | 2.32090 | 2.3524 | 2.3750 | 2.31630 | 2.32090 | 2.2850 | 2.32690 | 2.2948 | 3B |
| | | | 2.3615 | 2.3756 | 2.32065 | 2.3518 | 2.3756 | 2.31655 | 2.32115 | 2.2844 | 2.32665 | 2.2942 | |
| 2⅜-16 or 2.375-16 | UN | 2A | 2.3628 | 2.3733 | 2.33270 | 2.3543 | 2.3733 | 2.32720 | 2.33440 | 2.3070 | 2.34160 | 2.3210 | 2B |
| | | | 2.3622 | 2.3739 | 2.33245 | 2.3537 | 2.3739 | 2.32745 | 2.33465 | 2.3064 | 2.34135 | 2.3204 | |
| | | 3A | 2.3645 | 2.3750 | 2.33440 | 2.3574 | 2.3750 | 2.33030 | 2.33440 | 2.3070 | 2.33980 | 2.3158 | 3B |
| | | | 2.3639 | 2.3756 | 2.33415 | 2.3568 | 2.3756 | 2.33055 | 2.33465 | 2.3064 | 2.33955 | 2.3152 | |
| 2⅜-20 or 2.375-20 | UN | 2A | 2.3645 | 2.3735 | 2.3410 | 2.3576 | 2.3735 | 2.3359 | 2.3425 | 2.3210 | 2.3491 | 2.3320 | 2B |
| | | | 2.3640 | 2.3740 | 2.3408 | 2.3571 | 2.3740 | 2.3361 | 2.3427 | 2.3205 | 2.3489 | 2.3315 | |
| | | 3A | 2.3660 | 2.3750 | 2.3425 | 2.3604 | 2.3750 | 2.3387 | 2.3425 | 2.3210 | 2.3475 | 2.3287 | 3B |
| | | | 2.3655 | 2.3755 | 2.3423 | 2.3599 | 2.3755 | 2.3389 | 2.3427 | 2.3205 | 2.3473 | 2.3282 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 2½-4 or 2.500-4 | UNC | 1A | 2.4688 | 2.4969 | 2.33450 | 2.4273 | 2.4969 | 2.31900 | 2.33760 | 2.2290 | 2.35780 | 2.2670 | 1B |
| | | | 2.4679 | 2.4978 | 2.33425 | 2.4264 | 2.4978 | 2.31925 | 2.33785 | 2.2281 | 2.35755 | 2.2661 | |
| | | 2A | 2.4688 | 2.4969 | 2.33450 | 2.4324 | 2.4969 | 2.32410 | 2.33760 | 2.2290 | 2.35110 | 2.2670 | 2B |
| | | | 2.4679 | 2.4978 | 2.33425 | 2.4315 | 2.4978 | 2.32435 | 2.33785 | 2.2281 | 2.35085 | 2.2661 | |
| | | 3A | 2.4719 | 2.5000 | 2.33760 | 2.4381 | 2.5000 | 2.32980 | 2.33760 | 2.2290 | 2.34770 | 2.2594 | 3B |
| | | | 2.4710 | 2.5009 | 2.33735 | 2.4372 | 2.5009 | 2.33005 | 2.33785 | 2.2281 | 2.34745 | 2.2585 | |
| 2½-6 or 2.500-6 | UN | 2A | 2.4763 | 2.4973 | 2.38900 | 2.4623 | 2.4973 | 2.38000 | 2.39170 | 2.3200 | 2.40330 | 2.3500 | 2B |
| | | | 2.4755 | 2.4981 | 2.38875 | 2.4514 | 2.4981 | 2.38025 | 2.39195 | 2.3192 | 2.40305 | 2.3492 | |
| | | 3A | 2.4790 | 2.5000 | 2.39170 | 2.4572 | 2.5000 | 2.38500 | 2.39170 | 2.3200 | 2.40040 | 2.3396 | 3B |
| | | | 2.4782 | 2.5008 | 2.39145 | 2.4564 | 2.5008 | 2.38525 | 2.39195 | 2.3192 | 2.40015 | 2.3388 | |
| 2½-8 or 2.500-8 | UN | 2A | 2.4805 | 2.4976 | 2.41640 | 2.4623 | 2.4976 | 2.40820 | 2.41880 | 2.3650 | 2.42940 | 2.3900 | 2B |
| | | | 2.4798 | 2.4983 | 2.41615 | 2.4616 | 2.4983 | 2.40845 | 2.41905 | 2.3643 | 2.42915 | 2.3893 | |
| | | 3A | 2.4829 | 2.5000 | 2.41880 | 2.4668 | 2.5000 | 2.41270 | 2.41880 | 2.3650 | 2.42680 | 2.3797 | 3B |
| | | | 2.4822 | 2.5007 | 2.41855 | 2.4661 | 2.5007 | 2.41295 | 2.41905 | 2.3643 | 2.42655 | 2.3790 | |
| 2½-12 or 2.500-12 | UN | 2A | 2.4852 | 2.4981 | 2.44400 | 2.4739 | 2.4981 | 2.43780 | 2.44590 | 2.4100 | 2.45400 | 2.4280 | 2B |
| | | | 2.4846 | 2.4987 | 2.44375 | 2.4733 | 2.4987 | 2.43805 | 2.44615 | 2.4094 | 2.45375 | 2.4274 | |
| | | 3A | 2.4871 | 2.5000 | 2.44590 | 2.4774 | 2.5000 | 2.44130 | 2.44590 | 2.4100 | 2.45190 | 2.4198 | 3B |
| | | | 2.4865 | 2.5006 | 2.44565 | 2.4768 | 2.5006 | 2.44155 | 2.44615 | 2.4094 | 2.45165 | 2.4192 | |
| 2½-16 or 2.500-16 | UN | 2A | 2.4878 | 2.4983 | 2.45770 | 2.4793 | 2.4985 | 2.45220 | 2.45940 | 2.4320 | 2.46660 | 2.4460 | 2B |
| | | | 2.4872 | 2.4989 | 2.45745 | 2.4787 | 2.4990 | 2.45245 | 2.45965 | 2.3414 | 2.46635 | 2.4454 | |
| | | 3A | 2.4895 | 2.5000 | 2.45940 | 2.4824 | 2.5000 | 2.45530 | 2.45940 | 2.4320 | 2.46480 | 2.4408 | 3B |
| | | | 2.4889 | 2.5006 | 2.45915 | 2.4818 | 2.5006 | 2.45555 | 2.45965 | 2.4314 | 2.46455 | 2.4402 | |
| 2½-20 or 2.500-20 | UN | 2A | 2.4895 | 2.4985 | 2.4660 | 2.4826 | 2.4985 | 2.4609 | 2.4675 | 2.4460 | 2.4741 | 2.4570 | 2B |
| | | | 2.4890 | 2.4990 | 2.4658 | 2.4821 | 2.4990 | 2.4611 | 2.4677 | 2.4455 | 2.4739 | 2.4565 | |
| | | 3A | 2.4910 | 2.5000 | 2.4675 | 2.4854 | 2.5000 | 2.4637 | 2.4675 | 2.4460 | 2.4725 | 2.4537 | 3B |
| | | | 2.4905 | 2.5005 | 2.4673 | 2.4849 | 2.5005 | 2.4639 | 2.4677 | 2.4455 | 2.4723 | 2.4532 | |
| 2⅝-6 or 2.625-6 | UN | 2A | 2.6013 | 2.6223 | 2.51400 | 2.5772 | 2.6223 | 2.50500 | 2.51670 | 2.4450 | 2.52850 | 2.4750 | 2B |
| | | | 2.6005 | 2.6231 | 2.51375 | 2.5764 | 2.6231 | 2.50525 | 2.51695 | 2.4442 | 2.52825 | 2.4742 | |
| | | 3A | 2.6040 | 2.6250 | 2.51670 | 2.5821 | 2.6250 | 2.50990 | 2.51670 | 2.4450 | 2.52550 | 2.4646 | 3B |
| | | | 2.6032 | 2.6258 | 2.51645 | 2.5813 | 2.6258 | 2.51015 | 2.51695 | 2.4442 | 2.52525 | 2.4638 | |
| 2⅝-8 or 2.625-8 | UN | 2A | 2.6054 | 2.6225 | 2.54130 | 2.5872 | 2.6225 | 2.53310 | 2.54380 | 2.4900 | 2.55450 | 2.5150 | 2B |
| | | | 2.6047 | 2.6232 | 2.54105 | 2.5865 | 2.6232 | 2.53335 | 2.54405 | 2.4893 | 2.55425 | 2.5143 | |
| | | 3A | 2.6079 | 2.6250 | 2.54380 | 2.5917 | 2.6250 | 2.53760 | 2.54380 | 2.4900 | 2.55180 | 2.5047 | 3B |
| | | | 2.6072 | 2.6257 | 2.54355 | 2.5910 | 2.6257 | 2.53785 | 2.54405 | 2.4893 | 2.55155 | 2.5040 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 2⅝-12 or 2.625-12 | UN | 2A | 2.6102 | 2.6231 | 2.56900 | 2.5989 | 2.6231 | 2.56280 | 2.57090 | 2.5350 | 2.57900 | 2.5530 | 2B |
| | | | 2.6096 | 2.6237 | 2.56875 | 2.5983 | 2.6237 | 2.56305 | 2.57115 | 2.5344 | 2.57875 | 2.5524 | |
| | | 3A | 2.6121 | 2.6250 | 2.57090 | 2.6024 | 2.6250 | 2.56630 | 2.57090 | 2.5350 | 2.57690 | 2.5448 | 3B |
| | | | 2.6115 | 2.6256 | 2.57065 | 2.6018 | 2.6256 | 2.56655 | 2.57115 | 2.5344 | 2.57665 | 2.5442 | |
| 2⅝-16 or 2.625-16 | UN | 2A | 2.6128 | 2.6233 | 2.58270 | 2.6043 | 2.6233 | 2.57720 | 2.58440 | 2.5570 | 2.59160 | 2.5710 | 2B |
| | | | 2.6122 | 2.6239 | 2.58245 | 2.6037 | 2.6239 | 2.57745 | 2.58465 | 2.5564 | 2.59135 | 2.5704 | |
| | | 3A | 2.6145 | 2.6250 | 2.58440 | 2.6074 | 2.6250 | 2.58030 | 2.58440 | 2.5570 | 2.58980 | 2.5658 | 3B |
| | | | 2.6139 | 2.6256 | 2.58415 | 2.6068 | 2.6256 | 2.58055 | 2.58465 | 2.5564 | 2.58955 | 2.5652 | |
| 2⅝-20 or 2.625-20 | UN | 2A | 2.6145 | 2.6235 | 2.5910 | 2.6076 | 2.6235 | 2.5859 | 2.5925 | 2.5710 | 2.5991 | 2.5820 | 2B |
| | | | 2.6140 | 2.6240 | 2.5908 | 2.6071 | 2.6240 | 2.5861 | 2.5927 | 2.5705 | 2.5989 | 2.5815 | |
| | | 3A | 2.6160 | 2.6250 | 2.5925 | 2.6104 | 2.6250 | 2.5887 | 2.5925 | 2.5710 | 2.5975 | 2.5787 | 3B |
| | | | 2.6155 | 2.6255 | 2.5923 | 2.6099 | 2.6255 | 2.5889 | 2.5927 | 2.5705 | 2.5973 | 2.5782 | |
| 2¾-4 or 2.750-4 | UNC | 1A | 2.7187 | 2.7468 | 2.58440 | 2.6769 | 2.7468 | 2.56860 | 2.58760 | 2.4790 | 2.60820 | 2.5170 | 1B |
| | | | 2.7178 | 2.7477 | 2.58415 | 2.6760 | 2.7477 | 2.56885 | 2.58785 | 2.4781 | 2.60795 | 2.5161 | |
| | | 2A | 2.7187 | 2.7468 | 2.58440 | 2.6822 | 2.7468 | 2.57390 | 2.58760 | 2.4790 | 2.60130 | 2.5170 | 2B |
| | | | 2.7178 | 2.7477 | 2.58415 | 2.6813 | 2.7477 | 2.57415 | 2.58785 | 2.4781 | 2.60105 | 2.5161 | |
| | | 3A | 2.7219 | 2.7500 | 2.58760 | 2.6880 | 2.7500 | 2.57970 | 2.58760 | 2.4790 | 2.59790 | 2.5094 | 3B |
| | | | 2.7210 | 2.7509 | 2.58735 | 2.6871 | 2.7509 | 2.57995 | 2.58785 | 2.4781 | 2.59765 | 2.5085 | |
| 2¾-6 or 2.750-6 | UN | 2A | 2.7263 | 2.7473 | 2.63900 | 2.7021 | 2.7473 | 2.62990 | 2.64170 | 2.5700 | 2.65360 | 2.6000 | 2B |
| | | | 2.7255 | 2.7481 | 2.63875 | 2.7013 | 2.7481 | 2.63015 | 2.64195 | 2.5692 | 2.65335 | 2.5992 | |
| | | 3A | 2.7290 | 2.7500 | 2.64170 | 2.7071 | 2.7500 | 2.63490 | 2.64170 | 2.5700 | 2.65060 | 2.5896 | 3B |
| | | | 2.7282 | 2.7508 | 2.64145 | 2.7063 | 2.7508 | 2.63515 | 2.64195 | 2.5692 | 2.65035 | 2.5888 | |
| 2¾-8 or 2.750-8 | UN | 2A | 2.7304 | 2.7475 | 2.66630 | 2.7121 | 2.7475 | 2.65800 | 2.66880 | 2.6150 | 2.67960 | 2.6400 | 2B |
| | | | 2.7297 | 2.7482 | 2.66605 | 2.7114 | 2.7482 | 2.65825 | 2.66905 | 2.6143 | 2.67935 | 2.6393 | |
| | | 3A | 2.7329 | 2.7500 | 2.66880 | 2.7167 | 2.7500 | 2.66250 | 2.66880 | 2.6150 | 2.67690 | 2.6297 | 3B |
| | | | 2.7322 | 2.7507 | 2.66855 | 2.7160 | 2.7507 | 2.66275 | 2.66905 | 2.6143 | 2.67665 | 2.6290 | |
| 2¾-12 or 2.750-12 | UN | 2A | 2.7352 | 2.7481 | 2.69400 | 2.7239 | 2.7481 | 2.68780 | 2.69590 | 2.6600 | 2.70400 | 2.6780 | 2B |
| | | | 2.7346 | 2.7487 | 2.69375 | 2.7233 | 2.7487 | 2.68805 | 2.69615 | 2.6594 | 2.70375 | 2.6774 | |
| | | 3A | 2.7371 | 2.7500 | 2.69590 | 2.7274 | 2.7500 | 2.69130 | 2.69590 | 2.6600 | 2.70190 | 2.6698 | 3B |
| | | | 2.7365 | 2.7506 | 2.69565 | 2.7268 | 2.7506 | 2.69155 | 2.69615 | 2.6594 | 2.70165 | 2.6692 | |
| 2¾-16 or 2.750-16 | UN | 2A | 2.7378 | 2.7483 | 2.70770 | 2.7293 | 2.7483 | 2.70220 | 2.70940 | 2.6820 | 2.71660 | 2.6960 | 2B |
| | | | 2.7372 | 2.7489 | 2.70745 | 2.7287 | 2.7489 | 2.70245 | 2.70965 | 2.6814 | 2.71635 | 2.6954 | |
| | | 3A | 2.7395 | 2.7500 | 2.70940 | 2.7324 | 2.7500 | 2.70530 | 2.70940 | 2.6820 | 2.71480 | 2.6908 | 3B |
| | | | 2.7389 | 2.7506 | 2.70915 | 2.7318 | 2.7506 | 2.70555 | 2.70965 | 2.6814 | 2.71455 | 2.6902 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 2¾-20 or 2.750-20 | UN | 2A | 2.7395 | 2.7485 | 2.7160 | 2.7326 | 2.7485 | 2.7109 | 2.7175 | 2.6960 | 2.7241 | 2.7070 | 2B |
| | | | 2.7390 | 2.7490 | 2.7158 | 2.7321 | 2.7490 | 2.7111 | 2.7177 | 2.6955 | 2.7239 | 2.7065 | |
| | | 3A | 2.7410 | 2.7500 | 2.7175 | 2.7354 | 2.7500 | 2.7137 | 2.7175 | 2.6960 | 2.7225 | 2.7037 | 3B |
| | | | 2.7405 | 2.7505 | 2.7173 | 2.7349 | 2.7505 | 2.7139 | 2.7177 | 2.6955 | 2.7223 | 2.7032 | |
| 2⅞-6 or 2.875-6 | UN | 2A | 2.8512 | 2.8722 | 2.76390 | 2.8269 | 2.8722 | 2.75470 | 2.76670 | 2.6950 | 2.77870 | 2.7250 | 2B |
| | | | 2.8504 | 2.8730 | 2.76365 | 2.8261 | 2.8730 | 2.75495 | 2.76695 | 2.6942 | 2.77845 | 2.7242 | |
| | | 3A | 2.8540 | 2.8750 | 2.76670 | 2.8320 | 2.8750 | 2.75980 | 2.76670 | 2.6950 | 2.77570 | 2.7146 | 3B |
| | | | 2.8532 | 2.8758 | 2.76645 | 2.8312 | 2.8758 | 2.76005 | 2.76695 | 2.6942 | 2.77545 | 2.7138 | |
| 2⅞-8 or 2.875-8 | UN | 2A | 2.8554 | 2.8725 | 2.79130 | 2.8370 | 2.8725 | 2.78290 | 2.79380 | 2.7400 | 2.80480 | 2.7650 | 2B |
| | | | 2.8547 | 2.8732 | 2.79105 | 2.8363 | 2.8732 | 2.78315 | 2.79405 | 2.7393 | 2.80455 | 2.7643 | |
| | | 3A | 2.8579 | 2.8750 | 2.79380 | 2.8416 | 2.8750 | 2.78750 | 2.79380 | 2.7400 | 2.80200 | 2.7547 | 3B |
| | | | 2.8572 | 2.8757 | 2.79355 | 2.8409 | 2.8757 | 2.78775 | 2.79405 | 2.7393 | 2.80175 | 2.7540 | |
| 2⅞-12 or 2.875-12 | UN | 2A | 2.8602 | 2.8731 | 2.81900 | 2.8488 | 2.8731 | 2.81270 | 2.82090 | 2.7850 | 2.82910 | 2.8030 | 2B |
| | | | 2.8596 | 2.8737 | 2.81875 | 2.8482 | 2.8737 | 2.81295 | 2.82115 | 2.7844 | 2.82885 | 2.8024 | |
| | | 3A | 2.8621 | 2.8750 | 2.82090 | 2.8523 | 2.8750 | 2.81620 | 2.82090 | 2.7850 | 2.82710 | 2.7948 | 3B |
| | | | 2.8615 | 2.8756 | 2.82065 | 2.8517 | 2.8756 | 2.81645 | 2.82115 | 2.7844 | 2.82685 | 2.7942 | |
| 2⅞-16 or 2.875-16 | UN | 2A | 2.8628 | 2.8733 | 2.83270 | 2.8542 | 2.8733 | 2.82710 | 2.83440 | 2.8070 | 2.84170 | 2.8210 | 2B |
| | | | 2.8622 | 2.8739 | 2.83245 | 2.8536 | 2.8739 | 2.82735 | 2.83465 | 2.8064 | 2.84145 | 2.8204 | |
| | | 3A | 2.8645 | 2.8750 | 2.83440 | 2.8573 | 2.8750 | 2.83020 | 2.83440 | 2.8070 | 2.83990 | 2.8158 | 3B |
| | | | 2.8639 | 2.8756 | 2.83415 | 2.8567 | 2.8756 | 2.83045 | 2.83465 | 2.8064 | 2.83965 | 2.8152 | |
| 2⅞-20 or 2.875-20 | UN | 2A | 2.8644 | 2.8734 | 2.8409 | 2.8574 | 2.8734 | 2.8357 | 2.8425 | 2.8210 | 2.8493 | 2.8320 | 2B |
| | | | 2.8639 | 2.8739 | 2.8407 | 2.8569 | 2.8739 | 2.8359 | 2.8427 | 2.8205 | 2.8491 | 2.8315 | |
| | | 3A | 2.8660 | 2.8750 | 2.8425 | 2.8603 | 2.8750 | 2.8386 | 2.8425 | 2.8210 | 2.8476 | 2.8287 | 3B |
| | | | 2.8655 | 2.8755 | 2.8423 | 2.8598 | 2.8755 | 2.8388 | 2.8427 | 2.8205 | 2.8474 | 2.8282 | |
| 3-4 or 3.000-4 | UNC | 1A | 2.9687 | 2.9968 | 2.83440 | 2.9266 | 2.9968 | 2.81830 | 2.83760 | 2.7290 | 2.85850 | 2.7670 | 1B |
| | | | 2.9678 | 2.9977 | 2.83415 | 2.9257 | 2.9977 | 2.81855 | 2.83785 | 2.7281 | 2.85825 | 2.7661 | |
| | | 2A | 2.9687 | 2.9968 | 2.83440 | 2.9320 | 2.9968 | 2.82370 | 2.83760 | 2.7290 | 2.85150 | 2.7670 | 2B |
| | | | 2.9678 | 2.9977 | 2.83415 | 2.9311 | 2.9977 | 2.82395 | 2.83785 | 2.7281 | 2.85125 | 2.7661 | |
| | | 3A | 2.9719 | 3.0000 | 2.83760 | 2.9379 | 3.0000 | 2.82960 | 2.83760 | 2.7290 | 2.84800 | 2.7594 | 3B |
| | | | 2.9710 | 3.0009 | 2.83735 | 2.9370 | 3.0009 | 2.82985 | 2.83785 | 2.7281 | 2.84775 | 2.7585 | |
| 3-6 or 3.000-6 | UN | 2A | 2.9762 | 2.9972 | 2.88890 | 2.9518 | 2.9972 | 2.87960 | 2.89170 | 2.8200 | 2.90380 | 2.8500 | 2B |
| | | | 2.9754 | 2.9980 | 2.88865 | 2.9510 | 2.9980 | 2.87985 | 2.89195 | 2.8192 | 2.90355 | 2.8492 | |
| | | 3A | 2.9790 | 3.0000 | 2.89170 | 2.9569 | 3.0000 | 2.88470 | 2.89170 | 2.8200 | 2.90080 | 2.8396 | 3B |
| | | | 2.9782 | 3.0008 | 2.89145 | 2.9561 | 3.0008 | 2.88495 | 2.89195 | 2.8192 | 2.90055 | 2.8388 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 3-8 or 3.000-8 | UN | 2A | 2.9803 | 2.9974 | 2.91620 | 2.9618 | 2.9974 | 2.90770 | 2.91880 | 2.8650 | 2.92990 | 2.8900 | 2B |
| | | | 2.9796 | 2.9981 | 2.91595 | 2.9611 | 2.9981 | 2.90795 | 2.91905 | 2.8643 | 2.92965 | 2.8893 | |
| | | 3A | 2.9829 | 3.0000 | 2.91880 | 2.9665 | 3.0000 | 2.91240 | 2.91880 | 2.8650 | 2.92710 | 2.8797 | 3B |
| | | | 2.9822 | 3.0007 | 2.91855 | 2.9658 | 3.0007 | 2.91265 | 2.91905 | 2.8643 | 2.92685 | 2.8790 | |
| 3-12 or 3.000-12 | UN | 2A | 2.9852 | 2.9981 | 2.94400 | 2.9738 | 2.9981 | 2.93770 | 2.94590 | 2.9100 | 2.95410 | 2.9280 | 2B |
| | | | 2.9846 | 2.9987 | 2.94375 | 2.9732 | 2.9987 | 2.93795 | 2.94615 | 2.9094 | 2.95385 | 2.9274 | |
| | | 3A | 2.9871 | 3.0000 | 2.94590 | 2.9773 | 3.0000 | 2.94120 | 2.94590 | 2.9100 | 2.95210 | 2.9198 | 3B |
| | | | 2.9865 | 3.0006 | 2.94565 | 2.9767 | 3.0006 | 2.94145 | 2.94615 | 2.9094 | 2.95185 | 2.9192 | |
| 3-16 or 3.000-16 | UN | 2A | 2.9878 | 2.9983 | 2.95770 | 2.9792 | 2.9983 | 2.95210 | 2.95940 | 2.9320 | 2.96670 | 2.9460 | 2B |
| | | | 2.9872 | 2.9989 | 2.95745 | 2.9786 | 2.9989 | 2.95235 | 2.95965 | 2.9314 | 2.96645 | 2.9454 | |
| | | 3A | 2.9895 | 3.0000 | 2.95940 | 2.9823 | 3.0000 | 2.95520 | 2.95940 | 2.9320 | 2.96490 | 2.9408 | 3B |
| | | | 2.9889 | 3.0006 | 2.95915 | 2.9817 | 3.0006 | 2.95545 | 2.95965 | 2.9314 | 2.96465 | 2.9402 | |
| 3-20 or 3.000-20 | UN | 2A | 2.9894 | 2.9984 | 2.9659 | 2.9824 | 2.9984 | 2.9607 | 2.9675 | 2.9460 | 2.9743 | 2.9570 | 2B |
| | | | 2.9889 | 2.9989 | 2.9657 | 2.9819 | 2.9989 | 2.9609 | 2.9677 | 2.9455 | 2.9741 | 2.9565 | |
| | | 3A | 2.9910 | 3.0000 | 2.9675 | 2.9853 | 3.0000 | 2.9636 | 2.9675 | 2.9460 | 2.9726 | 2.9537 | 3B |
| | | | 2.9905 | 3.0005 | 2.9673 | 2.9848 | 3.0005 | 2.9638 | 2.9677 | 2.9455 | 2.9724 | 2.9532 | |
| 3⅛-6 or 3.125-6 | UN | 2A | 3.1012 | 3.1222 | 3.01390 | 3.0767 | 3.1222 | 3.00450 | 3.01670 | 2.9450 | 3.02890 | 2.9750 | 2B |
| | | | 3.1004 | 3.1230 | 3.01365 | 3.0759 | 3.1230 | 3.00475 | 3.01695 | 2.9442 | 3.02865 | 2.9742 | |
| | | 3A | 3.1040 | 3.1250 | 3.01670 | 3.0819 | 3.1250 | 3.00970 | 3.01670 | 2.9450 | 3.02590 | 2.9646 | 3B |
| | | | 3.1032 | 3.1258 | 3.01645 | 3.0811 | 3.1258 | 3.00995 | 3.01695 | 2.9442 | 3.02565 | 2.9638 | |
| 3⅛-8 or 3.125-8 | UN | 2A | 3.1053 | 3.1224 | 3.04120 | 3.0867 | 3.1224 | 3.03260 | 3.04380 | 2.9900 | 3.05500 | 3.0150 | 2B |
| | | | 3.1046 | 3.1231 | 3.04095 | 3.0860 | 3.1231 | 3.03285 | 3.04405 | 2.9893 | 3.05475 | 3.0143 | |
| | | 3A | 3.1079 | 3.1250 | 3.04380 | 3.0915 | 3.1250 | 3.03740 | 3.04380 | 2.9900 | 3.05220 | 3.0047 | 3B |
| | | | 3.1072 | 3.1257 | 3.04355 | 3.0908 | 3.1257 | 3.03765 | 3.04405 | 2.9893 | 3.05195 | 3.0040 | |
| 3⅛-12 or 3.125-12 | UN | 2A | 3.1102 | 3.1231 | 3.06900 | 3.0988 | 3.1231 | 3.06270 | 3.07090 | 3.0350 | 3.07910 | 3.0530 | 2B |
| | | | 3.1096 | 3.1237 | 3.06875 | 3.0982 | 3.1237 | 3.06295 | 3.07115 | 3.0344 | 3.07885 | 3.0524 | |
| | | 3A | 3.1121 | 3.1250 | 3.07090 | 3.1023 | 3.1250 | 3.06620 | 3.07090 | 3.0350 | 3.07710 | 3.0448 | 3B |
| | | | 3.1115 | 3.1256 | 3.07065 | 3.1017 | 3.1256 | 3.06645 | 3.07115 | 3.0344 | 3.07685 | 3.0442 | |
| 3⅛-16 or 3.125-16 | UN | 2A | 3.1128 | 3.1233 | 3.08270 | 3.1042 | 3.1233 | 3.07710 | 3.08440 | 3.0570 | 3.09170 | 3.0710 | 2B |
| | | | 3.1122 | 3.1239 | 3.08245 | 3.1036 | 3.1239 | 3.07735 | 3.08465 | 3.0564 | 3.09145 | 3.0704 | |
| | | 3A | 3.1145 | 3.1250 | 3.08440 | 3.1073 | 3.1250 | 3.08020 | 3.08440 | 3.0570 | 3.08990 | 3.0658 | 3B |
| | | | 3.1139 | 3.1256 | 3.08415 | 3.1067 | 3.1256 | 3.08045 | 3.08465 | 3.0564 | 3.08965 | 3.0652 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 3¼-4 or 3.250-4 | UNC | 1A | 3.2186 | 3.2467 | 3.08430 | 3.1763 | 3.2467 | 3.06800 | 3.08760 | 2.9790 | 3.10880 | 3.0170 | 1B |
| | | | 3.2177 | 3.2476 | 3.08405 | 3.1754 | 3.2476 | 3.06825 | 3.08785 | 2.9781 | 3.10855 | 3.0161 | |
| | | 2A | 3.2186 | 3.2467 | 3.08430 | 3.1817 | 3.2467 | 3.07340 | 3.08760 | 2.9790 | 3.10170 | 3.0170 | 2B |
| | | | 3.2177 | 3.2476 | 3.08405 | 3.1808 | 3.2476 | 3.07365 | 3.08785 | 2.9781 | 3.10145 | 3.0161 | |
| | | 3A | 3.2219 | 3.2500 | 3.08760 | 3.1877 | 3.2500 | 3.07940 | 3.08760 | 2.9790 | 3.09820 | 3.0094 | 3B |
| | | | 3.2210 | 3.2509 | 3.08735 | 3.1868 | 3.2509 | 3.07965 | 3.08785 | 2.9781 | 3.09795 | 3.0085 | |
| 3¼-6 or 3.250-6 | UN | 2A | 3.2262 | 3.2472 | 3.13890 | 3.2016 | 3.2472 | 3.12940 | 3.14170 | 3.0700 | 3.15400 | 3.1000 | 2B |
| | | | 3.2254 | 3.2480 | 3.13865 | 3.2008 | 3.2480 | 3.12965 | 3.14195 | 3.0692 | 3.15375 | 3.0992 | |
| | | 3A | 3.2290 | 3.2500 | 3.14170 | 3.2068 | 3.2500 | 3.13460 | 3.14170 | 3.0700 | 3.15090 | 3.0896 | 3B |
| | | | 3.2282 | 3.2508 | 3.14145 | 3.2060 | 3.2508 | 3.13485 | 3.14195 | 3.0692 | 3.15065 | 3.0888 | |
| 3¼-8 or 3.250-8 | UN | 2A | 3.2303 | 3.2474 | 3.16620 | 3.2116 | 3.2474 | 3.15750 | 3.16880 | 3.1150 | 3.18010 | 3.1400 | 2B |
| | | | 3.2296 | 3.2481 | 3.16595 | 3.2109 | 3.2481 | 3.15775 | 3.16905 | 3.1143 | 3.17985 | 3.1393 | |
| | | 3A | 3.2329 | 3.2500 | 3.16880 | 3.2164 | 3.2500 | 3.16230 | 3.16880 | 3.1150 | 3.17730 | 3.1297 | 3B |
| | | | 3.2322 | 3.2507 | 3.16855 | 3.2157 | 3.2507 | 3.16255 | 3.16905 | 3.1143 | 3.17705 | 3.1290 | |
| 3¼-12 or 3.250-12 | UN | 2A | 3.2352 | 3.2481 | 3.19400 | 3.2238 | 3.2481 | 3.18770 | 3.19590 | 3.1600 | 3.20410 | 3.1780 | 2B |
| | | | 3.2346 | 3.2487 | 3.19375 | 3.2232 | 3.2487 | 3.18795 | 3.19615 | 3.1594 | 3.20385 | 3.1774 | |
| | | 3A | 3.2371 | 3.2500 | 3.19590 | 3.2273 | 3.2500 | 3.19120 | 3.19590 | 3.1600 | 3.20210 | 3.1698 | 3B |
| | | | 3.2365 | 3.2506 | 3.19565 | 3.2267 | 3.2506 | 3.19145 | 3.19615 | 3.1594 | 3.20185 | 3.1692 | |
| 3¼-16 or 3.250-16 | UN | 2A | 3.2378 | 3.2483 | 3.20770 | 3.2292 | 3.2483 | 3.20210 | 3.20940 | 3.1820 | 3.21670 | 3.1960 | 2B |
| | | | 3.2372 | 3.2489 | 3.20745 | 3.2286 | 3.2489 | 3.20235 | 3.20965 | 3.1814 | 3.21645 | 3.1954 | |
| | | 3A | 3.2395 | 3.2500 | 3.20940 | 3.2323 | 3.2500 | 3.20520 | 3.20940 | 3.1820 | 3.21490 | 3.1908 | 3B |
| | | | 3.2389 | 3.2506 | 3.20915 | 3.2317 | 3.2506 | 3.20545 | 3.20965 | 3.1814 | 3.21465 | 3.1902 | |
| 3⅜-6 or 3.375-6 | UN | 2A | 3.3511 | 3.3721 | 3.26380 | 3.3265 | 3.3721 | 3.25430 | 3.26670 | 3.1950 | 3.27910 | 3.2250 | 2B |
| | | | 3.3503 | 3.3729 | 3.26355 | 3.3257 | 3.3729 | 3.25455 | 3.26695 | 3.1942 | 3.27885 | 3.2242 | |
| | | 3A | 3.3540 | 3.3750 | 3.26670 | 3.3317 | 3.3750 | 3.25950 | 3.26670 | 3.1950 | 3.27600 | 3.2146 | 3B |
| | | | 3.3532 | 3.3758 | 3.26645 | 3.3309 | 3.3758 | 3.25975 | 3.26695 | 3.1942 | 3.27575 | 3.2138 | |
| 3⅜-8 or 3.375-8 | UN | 2A | 3.3553 | 3.3724 | 3.29120 | 3.3365 | 3.3724 | 3.28240 | 3.29380 | 3.2400 | 3.30520 | 3.2650 | 2B |
| | | | 3.3546 | 3.3731 | 3.29095 | 3.3358 | 3.3731 | 3.28265 | 3.29405 | 3.2393 | 3.30495 | 3.2643 | |
| | | 3A | 3.3579 | 3.3750 | 3.29380 | 3.3413 | 3.3750 | 3.28720 | 3.29380 | 3.2400 | 3.30230 | 3.2547 | 3B |
| | | | 3.3572 | 3.3757 | 3.29355 | 3.3406 | 3.3757 | 3.28745 | 3.29405 | 3.2393 | 3.30205 | 3.2540 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 3⅜-12 or 3.375-12 | UN | 2A | 3.3602 | 3.3731 | 3.31900 | 3.3487 | 3.3731 | 3.31260 | 3.32090 | 3.2850 | 3.32930 | 3.3030 | 2B |
| | | | 3.3596 | 3.3737 | 3.31875 | 3.3481 | 3.3737 | 3.31285 | 3.32115 | 3.2844 | 3.32905 | 3.3024 | |
| | | 3A | 3.3621 | 3.3750 | 3.32090 | 3.3522 | 3.3750 | 3.31610 | 3.32090 | 3.2850 | 3.32720 | 3.2948 | 3B |
| | | | 3.3615 | 3.3756 | 3.32065 | 3.3516 | 3.3756 | 3.31635 | 3.32115 | 3.2844 | 3.32695 | 3.2942 | |
| 3⅜-16 or 3.375-16 | UN | 2A | 3.3628 | 3.3733 | 3.33270 | 3.3540 | 3.3733 | 3.32690 | 3.33440 | 3.3070 | 3.34190 | 3.3210 | 2B |
| | | | 3.3622 | 3.3739 | 3.33245 | 3.3534 | 3.3739 | 3.32715 | 3.33465 | 3.3064 | 3.34165 | 3.3204 | |
| | | 3A | 3.3645 | 3.3750 | 3.33440 | 3.3572 | 3.3750 | 3.33010 | 3.33440 | 3.3070 | 3.34000 | 3.3158 | 3B |
| | | | 3.3639 | 3.3756 | 3.33415 | 3.3566 | 3.3756 | 3.33035 | 3.33465 | 3.3064 | 3.33975 | 3.3152 | |
| 3½-4 or 3.500-4 | UNC | 1A | 3.4686 | 3.4967 | 3.33430 | 3.4260 | 3.4967 | 3.31770 | 3.33760 | 3.2290 | 3.35910 | 3.2670 | 1B |
| | | | 3.4677 | 3.4976 | 3.33405 | 3.4251 | 3.4976 | 3.31795 | 3.33785 | 3.2281 | 3.35885 | 3.2661 | |
| | | 2A | 3.4686 | 3.4967 | 3.33430 | 3.4316 | 3.4967 | 3.32330 | 3.33760 | 3.2290 | 3.35190 | 3.2670 | 2B |
| | | | 3.4677 | 3.4976 | 3.33405 | 3.4307 | 3.4976 | 3.32355 | 3.33785 | 3.2281 | 3.35165 | 3.2661 | |
| | | 3A | 3.4719 | 3.5000 | 3.33760 | 3.4376 | 3.5000 | 3.32930 | 3.33760 | 3.2290 | 3.34840 | 3.2594 | 3B |
| | | | 3.4710 | 3.5009 | 3.33735 | 3.4367 | 3.5009 | 3.32955 | 3.33785 | 3.2281 | 3.34815 | 3.2585 | |
| 3½-6 or 3.500-6 | UN | 2A | 3.4761 | 3.4971 | 3.38880 | 3.4514 | 3.4971 | 3.37920 | 3.39170 | 3.3200 | 3.40420 | 3.3500 | 2B |
| | | | 3.4753 | 3.4979 | 3.38855 | 3.4506 | 3.4979 | 3.37945 | 3.39195 | 3.3192 | 3.40395 | 3.3492 | |
| | | 3A | 3.4790 | 3.5000 | 3.39170 | 3.4567 | 3.5000 | 3.38450 | 3.39170 | 3.3200 | 3.40110 | 3.3396 | 3B |
| | | | 3.4782 | 3.5008 | 3.39145 | 3.4559 | 3.5008 | 3.38475 | 3.39195 | 3.3192 | 3.40085 | 3.3388 | |
| 3½-8 or 3.500-8 | UN | 2A | 3.4803 | 3.4974 | 3.41620 | 3.4615 | 3.4974 | 3.40740 | 3.41880 | 3.3650 | 3.43030 | 3.3900 | 2B |
| | | | 3.4796 | 3.4981 | 3.41595 | 3.4608 | 3.4981 | 3.40765 | 3.41905 | 3.3643 | 3.43005 | 3.3893 | |
| | | 3A | 3.4829 | 3.5000 | 3.41880 | 3.4663 | 3.5000 | 3.41220 | 3.41880 | 3.3650 | 3.42740 | 3.3797 | 3B |
| | | | 3.4822 | 3.5007 | 3.41855 | 3.4656 | 3.5007 | 3.41245 | 3.41905 | 3.3643 | 3.42715 | 3.3790 | |
| 3½-12 or 3.500-12 | UN | 2A | 3.4852 | 3.4981 | 3.44400 | 3.4737 | 3.4981 | 3.43760 | 3.44590 | 3.4100 | 3.45430 | 3.4280 | 2B |
| | | | 3.4846 | 3.4987 | 3.44375 | 3.4731 | 3.4987 | 3.43785 | 3.44615 | 3.4094 | 3.45405 | 3.4274 | |
| | | 3A | 3.4871 | 3.5000 | 3.44590 | 3.4772 | 3.5000 | 3.44110 | 3.44590 | 3.4100 | 3.45220 | 3.4198 | 3B |
| | | | 3.4865 | 3.5006 | 3.44565 | 3.4766 | 3.5006 | 3.44135 | 3.44615 | 3.4094 | 3.45195 | 3.4192 | |
| 3½-16 or 3.500-16 | UN | 2A | 3.4878 | 3.4983 | 3.45770 | 3.4790 | 3.4983 | 3.45190 | 3.45940 | 3.4320 | 3.46690 | 3.4460 | 2B |
| | | | 3.4872 | 3.4989 | 3.45745 | 3.4784 | 3.4989 | 3.45215 | 3.45965 | 3.4314 | 3.46665 | 3.4454 | |
| | | 3A | 3.4895 | 3.5000 | 3.45940 | 3.4822 | 3.5000 | 3.45510 | 3.45940 | 3.4320 | 3.46500 | 3.4408 | 3B |
| | | | 3.4889 | 3.5006 | 3.45915 | 3.4816 | 3.5006 | 3.45535 | 3.45965 | 3.4314 | 3.46475 | 3.4402 | |
| 3⅝-6 or 3.625-6 | UN | 2A | 3.6011 | 3.6221 | 3.51380 | 3.5763 | 3.6221 | 3.50410 | 3.51670 | 3.4450 | 3.52930 | 3.4750 | 2B |
| | | | 3.6003 | 3.6229 | 3.51355 | 3.5755 | 3.6229 | 3.50435 | 3.51695 | 3.4442 | 3.52905 | 3.4742 | |
| | | 3A | 3.6040 | 3.6250 | 3.51670 | 3.5816 | 3.6250 | 3.50940 | 3.51670 | 3.4450 | 3.52620 | 3.4646 | 3B |
| | | | 3.6032 | 3.6258 | 3.51645 | 3.5808 | 3.6258 | 3.50965 | 3.51695 | 3.4442 | 3.52595 | 3.4638 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 3⅝-8 or 3.625-8 | UN | 2A | 3.6052 | 3.6223 | 3.54110 | 3.5863 | 3.6223 | 3.53220 | 3.54380 | 3.4900 | 3.55540 | 3.5150 | 2B |
| | | | 3.6045 | 3.6230 | 3.54085 | 3.5856 | 3.6230 | 3.53245 | 3.54405 | 3.4893 | 3.55515 | 3.5143 | |
| | | 3A | 3.6079 | 3.6250 | 3.54380 | 3.5912 | 3.6250 | 3.53710 | 3.54380 | 3.4900 | 3.55250 | 3.5047 | 3B |
| | | | 3.6072 | 3.6257 | 3.54355 | 3.5905 | 3.6257 | 3.53735 | 3.54405 | 3.4893 | 3.55225 | 3.5040 | |
| 3⅝-12 or 3.625-12 | UN | 2A | 3.6102 | 3.6231 | 3.56900 | 3.5987 | 3.6231 | 3.56260 | 3.57090 | 3.5350 | 3.57930 | 3.5530 | 2B |
| | | | 3.6096 | 3.6237 | 3.56875 | 3.5981 | 3.6237 | 3.56285 | 3.57115 | 3.5344 | 3.57905 | 3.5524 | |
| | | 3A | 3.6121 | 3.6250 | 3.57090 | 3.6022 | 3.6250 | 3.56610 | 3.57090 | 3.5350 | 3.57720 | 3.5448 | 3B |
| | | | 3.6115 | 3.6256 | 3.57065 | 3.6016 | 3.6256 | 3.56635 | 3.57115 | 3.5344 | 3.57695 | 3.5442 | |
| 3⅝-16 or 3.625-16 | UN | 2A | 3.6128 | 3.6233 | 3.58270 | 3.6040 | 3.6233 | 3.57690 | 3.58440 | 3.5570 | 3.59190 | 3.5710 | 2B |
| | | | 3.6122 | 3.6239 | 3.58245 | 3.6034 | 3.6239 | 3.57715 | 3.58465 | 3.5564 | 3.59165 | 3.5704 | |
| | | 3A | 3.6145 | 3.6250 | 3.58440 | 3.6072 | 3.6250 | 3.58010 | 3.58440 | 3.5570 | 3.59000 | 3.5658 | 3B |
| | | | 3.6139 | 3.6256 | 3.58415 | 3.6066 | 3.6256 | 3.58035 | 3.58465 | 3.5564 | 3.58975 | 3.5652 | |
| 3¾-4 or 3.750-4 | UNC | 1A | 3.7185 | 3.7466 | 3.58420 | 3.6757 | 3.7466 | 3.56740 | 3.58760 | 3.4790 | 3.60940 | 3.5170 | 1B |
| | | | 3.7176 | 3.7475 | 3.58395 | 3.6748 | 3.7475 | 3.56765 | 3.58785 | 3.4781 | 3.60915 | 3.5161 | |
| | | 2A | 3.7185 | 3.7466 | 3.58420 | 3.6813 | 3.7466 | 3.57300 | 3.58760 | 3.4790 | 3.60210 | 3.5170 | 2B |
| | | | 3.7176 | 3.7475 | 3.58395 | 3.6804 | 3.7475 | 3.57325 | 3.58785 | 3.4781 | 3.60185 | 3.5161 | |
| | | 3A | 3.7219 | 3.7500 | 3.58760 | 3.6875 | 3.7500 | 3.57920 | 3.58760 | 3.4790 | 3.59850 | 3.5094 | 3B |
| | | | 3.7210 | 3.7509 | 3.58735 | 3.6866 | 3.7509 | 3.57945 | 3.58785 | 3.4781 | 3.59825 | 3.5085 | |
| 3¾-6 or 3.750-6 | UN | 2A | 3.7261 | 3.7471 | 3.63880 | 3.7012 | 3.7471 | 3.62900 | 3.64170 | 3.5700 | 3.65440 | 3.6000 | 2B |
| | | | 3.7253 | 3.7479 | 3.63855 | 3.7004 | 3.7479 | 3.62925 | 3.64195 | 3.5692 | 3.65415 | 3.5992 | |
| | | 3A | 3.7290 | 3.7500 | 3.64170 | 3.7066 | 3.7500 | 3.63440 | 3.64170 | 3.5700 | 3.65120 | 3.5896 | 3B |
| | | | 3.7282 | 3.7508 | 3.64145 | 3.7058 | 3.7508 | 3.63465 | 3.64195 | 3.5692 | 3.65095 | 3.5888 | |
| 3¾-8 or 3.750-8 | UN | 2A | 3.7302 | 3.7473 | 3.66610 | 3.7112 | 3.7473 | 3.65710 | 3.66880 | 3.6150 | 3.68050 | 3.6400 | 2B |
| | | | 3.7295 | 3.7480 | 3.66585 | 3.7105 | 3.7480 | 3.65735 | 3.66905 | 3.6143 | 3.68025 | 3.6393 | |
| | | 3A | 3.7329 | 3.7500 | 3.66880 | 3.7162 | 3.7500 | 3.66210 | 3.66880 | 3.6150 | 3.67760 | 3.6297 | 3B |
| | | | 3.7322 | 3.7507 | 3.66855 | 3.7155 | 3.7507 | 3.66235 | 3.66905 | 3.6143 | 3.67735 | 3.6290 | |
| 3¾-12 or 3.750-12 | UN | 2A | 3.7352 | 3.7481 | 3.69400 | 3.7237 | 3.7481 | 3.68760 | 3.69590 | 3.6600 | 3.70430 | 3.6780 | 2B |
| | | | 3.7346 | 3.7487 | 3.69375 | 3.7231 | 3.7487 | 3.68785 | 3.69615 | 3.6594 | 3.70405 | 3.6774 | |
| | | 3A | 3.7371 | 3.7500 | 3.69590 | 3.7272 | 3.7500 | 3.69110 | 3.69590 | 3.6600 | 3.70220 | 3.6698 | 3B |
| | | | 3.7365 | 3.7506 | 3.69565 | 3.7266 | 3.7506 | 3.69135 | 3.69615 | 3.6594 | 3.70195 | 3.6692 | |
| 3¾-16 or 3.750-16 | UN | 2A | 3.7378 | 3.7483 | 3.70770 | 3.7290 | 3.7483 | 3.70190 | 3.70940 | 3.6820 | 3.71690 | 3.6960 | 2B |
| | | | 3.7372 | 3.7489 | 3.70745 | 3.7284 | 3.7489 | 3.70215 | 3.70965 | 3.6814 | 3.71665 | 3.6954 | |
| | | 3A | 3.7395 | 3.7500 | 3.70940 | 3.7322 | 3.7500 | 3.70510 | 3.70940 | 3.6820 | 3.71500 | 3.6908 | 3B |
| | | | 3.7389 | 3.7506 | 3.70915 | 3.7316 | 3.7506 | 3.70535 | 3.70965 | 3.6814 | 3.71475 | 3.6902 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 3⅞-6 or 3.875-6 | UN | 2A | 3.8510 | 3.8720 | 3.76370 | 3.8260 | 3.8720 | 3.75380 | 3.76670 | 3.6950 | 3.77950 | 3.7250 | 2B |
| | | | 3.8502 | 3.8728 | 3.76345 | 3.8252 | 3.8728 | 3.75405 | 3.76695 | 3.6942 | 3.77925 | 3.7242 | |
| | | 3A | 3.8540 | 3.8750 | 3.76670 | 3.8315 | 3.8750 | 3.75930 | 3.76670 | 3.6950 | 3.77630 | 3.7146 | 3B |
| | | | 3.8532 | 3.8758 | 3.76645 | 3.8307 | 3.8758 | 3.75955 | 3.76695 | 3.6942 | 3.77605 | 3.7138 | |
| 3⅞-8 or 3.875-8 | UN | 2A | 3.8552 | 3.8723 | 3.79110 | 3.8361 | 3.8723 | 3.78200 | 3.79380 | 3.7400 | 3.80560 | 3.7650 | 2B |
| | | | 3.8545 | 3.8730 | 3.79085 | 3.8354 | 3.8730 | 3.78225 | 3.79405 | 3.7393 | 3.80535 | 3.7643 | |
| | | 3A | 3.8579 | 3.8750 | 3.79380 | 3.8411 | 3.8750 | 3.78700 | 3.79380 | 3.7400 | 3.80260 | 3.7547 | 3B |
| | | | 3.8572 | 3.8757 | 3.79355 | 3.8404 | 3.8757 | 3.78725 | 3.79405 | 3.7393 | 3.80235 | 3.7540 | |
| 3⅞-12 or 3.875-12 | UN | 2A | 3.8601 | 3.8730 | 3.81890 | 3.8485 | 3.8730 | 3.81240 | 3.82090 | 3.7850 | 3.82940 | 3.8030 | 2B |
| | | | 3.8595 | 3.8736 | 3.81865 | 3.8479 | 3.8736 | 3.81265 | 3.82115 | 3.7844 | 3.82915 | 3.8024 | |
| | | 3A | 3.8621 | 3.8750 | 3.82090 | 3.8521 | 3.8750 | 3.81600 | 3.82090 | 3.7850 | 3.82730 | 3.7948 | 3B |
| | | | 3.8615 | 3.8756 | 3.82065 | 3.8515 | 3.8756 | 3.81625 | 3.82115 | 3.7844 | 3.82705 | 3.7942 | |
| 3⅞-16 or 3.875-16 | UN | 2A | 3.8627 | 3.8732 | 3.83260 | 3.8538 | 3.8732 | 3.82670 | 3.83440 | 3.8070 | 3.84200 | 3.8210 | 2B |
| | | | 3.8621 | 3.8738 | 3.83235 | 3.8532 | 3.8738 | 3.82695 | 3.83465 | 3.8064 | 3.84175 | 3.8204 | |
| | | 3A | 3.8645 | 3.8750 | 3.83440 | 3.8571 | 3.8750 | 3.83000 | 3.83440 | 3.8070 | 3.84010 | 3.8158 | 3B |
| | | | 3.8639 | 3.8756 | 3.83415 | 3.8565 | 3.8756 | 3.83025 | 3.83465 | 3.8064 | 3.83985 | 3.8152 | |
| 4-4 or 4.000-4 | UNC | 1A | 3.9685 | 3.9966 | 3.83420 | 3.9255 | 3.9966 | 3.81720 | 3.83760 | 3.7290 | 3.85970 | 3.7670 | 1B |
| | | | 3.9676 | 3.9975 | 3.83395 | 3.9246 | 3.9975 | 3.81745 | 3.83785 | 3.7281 | 3.85945 | 3.7661 | |
| | | 2A | 3.9685 | 3.9966 | 3.83420 | 3.9312 | 3.9966 | 3.82290 | 3.83760 | 3.7290 | 3.85230 | 3.7670 | 2B |
| | | | 3.9676 | 3.9975 | 3.83395 | 3.9303 | 3.9975 | 3.82315 | 3.83785 | 3.7281 | 3.85205 | 3.7661 | |
| | | 3A | 3.9719 | 4.0000 | 3.83760 | 3.9374 | 4.0000 | 3.82910 | 3.83760 | 3.7290 | 3.84870 | 3.7594 | 3B |
| | | | 3.9710 | 4.0009 | 3.83735 | 3.9365 | 4.0009 | 3.82935 | 3.83785 | 3.7281 | 3.84845 | 3.7585 | |
| 4-6 or 4.000-6 | UN | 2A | 3.9760 | 3.9970 | 3.88870 | 3.9510 | 3.9970 | 3.87880 | 3.89170 | 3.8200 | 3.90460 | 3.8500 | 2B |
| | | | 3.9752 | 3.9978 | 3.88845 | 3.9502 | 3.9978 | 3.87905 | 3.89195 | 3.8192 | 3.90435 | 3.8492 | |
| | | 3A | 3.9790 | 4.0000 | 3.89170 | 3.9565 | 4.0000 | 3.88430 | 3.89170 | 3.8200 | 3.90140 | 3.8396 | 3B |
| | | | 3.9782 | 4.0008 | 3.89145 | 3.9557 | 4.0008 | 3.88455 | 3.89195 | 3.8192 | 3.90115 | 3.8388 | |
| 4-8 or 4.000-8 | UN | 2A | 3.9802 | 3.9973 | 3.91610 | 3.9611 | 3.9973 | 3.90700 | 3.91880 | 3.8650 | 3.93070 | 3.8900 | 2B |
| | | | 3.9795 | 3.9980 | 3.91585 | 3.9604 | 3.9980 | 3.90725 | 3.91905 | 3.8643 | 3.93045 | 3.8893 | |
| | | 3A | 3.9829 | 4.0000 | 3.91880 | 3.9661 | 4.0000 | 3.91200 | 3.91880 | 3.8650 | 3.92770 | 3.8797 | 3B |
| | | | 3.9822 | 4.0007 | 3.91855 | 3.9654 | 4.0007 | 3.91225 | 3.91905 | 3.8643 | 3.92745 | 3.8790 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 4-12 or 4.000-12 | UN | 2A | 3.9851 | 3.9980 | 3.94390 | 3.9735 | 3.9980 | 3.93740 | 3.94590 | 3.9100 | 3.95440 | 3.9280 | 2B |
| | | | 3.9845 | 3.9986 | 3.94365 | 3.9729 | 3.9986 | 3.93765 | 3.94615 | 3.9094 | 3.95415 | 3.9274 | |
| | | 3A | 3.9871 | 4.0000 | 3.94590 | 3.9771 | 4.0000 | 3.94100 | 3.94590 | 3.9100 | 3.95230 | 3.9198 | 3B |
| | | | 3.9865 | 4.0006 | 3.94565 | 3.9765 | 4.0006 | 3.94125 | 3.94615 | 3.9094 | 3.95205 | 3.9192 | |
| 4-16 or 4.000-16 | UN | 2A | 3.9877 | 3.9982 | 3.95760 | 3.9788 | 3.9982 | 3.95170 | 3.95940 | 3.9320 | 3.96700 | 3.9460 | 2B |
| | | | 3.9871 | 3.9988 | 3.95735 | 3.9782 | 3.9988 | 3.95195 | 3.95965 | 3.9314 | 3.96675 | 3.9454 | |
| | | 3A | 3.9895 | 4.0000 | 3.95940 | 3.9821 | 4.0000 | 3.95500 | 3.95940 | 3.9320 | 3.96510 | 3.9408 | 3B |
| | | | 3.9889 | 4.0006 | 3.95915 | 3.9815 | 4.0006 | 3.95525 | 3.95965 | 3.9314 | 3.96485 | 3.9402 | |
| 4⅛-6 or 4.125-6 | UN | 2A | 4.1010 | 4.1220 | 4.0137 | 4.0759 | 4.1220 | 4.0037 | 4.0167 | 3.9450 | 4.0297 | 3.9750 | 2B |
| | | | 4.0997 | 4.1233 | 4.0134 | 4.0746 | 4.1233 | 4.0040 | 4.0170 | 3.9437 | 4.0294 | 3.9737 | |
| | | 3A | 4.1040 | 4.1250 | 4.0167 | 4.0814 | 4.1250 | 4.0092 | 4.0167 | 3.9450 | 4.0264 | 3.9646 | 3B |
| | | | 4.1027 | 4.1263 | 4.0164 | 4.0801 | 4.1263 | 4.0095 | 4.0170 | 3.9437 | 4.0261 | 3.9633 | |
| 4⅛-12 or 4.125-12 | UN | 2A | 4.1101 | 4.1230 | 4.0689 | 4.0985 | 4.1230 | 4.0624 | 4.0709 | 4.0350 | 4.0794 | 4.0530 | 2B |
| | | | 4.1092 | 4.1239 | 4.0686 | 4.0976 | 4.1239 | 4.0627 | 4.0712 | 4.0341 | 4.0791 | 4.0521 | |
| | | 3A | 4.1121 | 4.1250 | 4.0709 | 4.1021 | 4.1250 | 4.0660 | 4.0709 | 4.0350 | 4.0773 | 4.0448 | 3B |
| | | | 4.1112 | 4.1259 | 4.0706 | 4.1012 | 4.1259 | 4.0663 | 4.0712 | 4.0341 | 4.0770 | 4.0439 | |
| 4⅛-16 or 4.125-16 | UN | 2A | 4.1127 | 4.1232 | 4.0826 | 4.1038 | 4.1232 | 4.0767 | 4.0844 | 4.0570 | 4.0920 | 4.0710 | 2B |
| | | | 4.1118 | 4.1241 | 4.0823 | 4.1029 | 4.1241 | 4.0770 | 4.0847 | 4.0561 | 4.0917 | 4.0701 | |
| | | 3A | 4.1145 | 4.1250 | 4.0844 | 4.1071 | 4.1250 | 4.0800 | 4.0844 | 4.0570 | 4.0901 | 4.0658 | 3B |
| | | | 4.1136 | 4.1259 | 4.0841 | 4.1062 | 4.1259 | 4.0803 | 4.0847 | 4.0561 | 4.0898 | 4.0649 | |
| 4¼-4 or 4.250-4 | UN | 2A | 4.2185 | 4.2466 | 4.0842 | 4.1810 | 4.2466 | 4.0727 | 4.0876 | 3.9790 | 4.1025 | 4.0170 | 2B |
| | | | 4.2170 | 4.2481 | 4.0839 | 4.1795 | 4.2481 | 4.0730 | 4.0879 | 3.9775 | 4.1022 | 4.0155 | |
| | | 3A | 4.2219 | 4.2500 | 4.0876 | 4.1873 | 4.2500 | 4.0790 | 4.0876 | 3.9790 | 4.0988 | 4.0094 | 3B |
| | | | 4.2204 | 4.2515 | 4.0873 | 4.1858 | 4.2515 | 4.0793 | 4.0879 | 3.9775 | 4.0985 | 4.0079 | |
| 4¼-6 or 4.250-6 | UN | 2A | 4.2260 | 4.2470 | 4.1387 | 4.2008 | 4.2470 | 4.1286 | 4.1417 | 4.0700 | 4.1548 | 4.1000 | 2B |
| | | | 4.2247 | 4.2483 | 4.1384 | 4.1995 | 4.2483 | 4.1289 | 4.1420 | 4.0687 | 4.1545 | 4.0987 | |
| | | 3A | 4.2290 | 4.2500 | 4.1417 | 4.2064 | 4.2500 | 4.1342 | 4.1417 | 4.0700 | 4.1515 | 4.0896 | 3B |
| | | | 4.2277 | 4.2513 | 4.1414 | 4.2051 | 4.2513 | 4.1345 | 4.1420 | 4.0687 | 4.1512 | 4.0883 | |
| 4¼-12 or 4.250-12 | UN | 2A | 4.2351 | 4.2480 | 4.1939 | 4.2235 | 4.2480 | 4.1874 | 4.1959 | 4.1600 | 4.2044 | 4.1780 | 2B |
| | | | 4.2342 | 4.2489 | 4.1936 | 4.2226 | 4.2489 | 4.1877 | 4.1962 | 4.1591 | 4.2041 | 4.1771 | |
| | | 3A | 4.2371 | 4.2500 | 4.1959 | 4.2271 | 4.2500 | 4.1910 | 4.1959 | 4.1600 | 4.2023 | 4.1698 | 3B |
| | | | 4.2362 | 4.2509 | 4.1956 | 4.2262 | 4.2509 | 4.1913 | 4.1962 | 4.1591 | 4.2020 | 4.1689 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 4¼-16 or 4.250-16 | UN | 2A | 4.2377 | 4.2482 | 4.2076 | 4.2288 | 4.2482 | 4.2017 | 4.2094 | 4.1820 | 4.2170 | 4.1960 | 2B |
| | | | 4.2368 | 4.2491 | 4.2073 | 4.2279 | 4.2491 | 4.2020 | 4.2097 | 4.1811 | 4.2167 | 4.1951 | |
| | | 3A | 4.2395 | 4.2500 | 4.2094 | 4.2321 | 4.2500 | 4.2050 | 4.2094 | 4.1820 | 4.2151 | 4.1908 | 3B |
| | | | 4.2386 | 4.2509 | 4.2091 | 4.2312 | 4.2509 | 4.2053 | 4.2097 | 4.1811 | 4.2148 | 4.1899 | |
| 4⅜-6 or 4.375-6 | UN | 2A | 4.3510 | 4.3720 | 4.2637 | 4.3258 | 4.3720 | 4.2536 | 4.2667 | 4.1950 | 4.2799 | 4.2250 | 2B |
| | | | 4.3497 | 4.3733 | 4.2634 | 4.3245 | 4.3733 | 4.2539 | 4.2670 | 4.1937 | 4.2796 | 4.2237 | |
| | | 3A | 4.3540 | 4.3750 | 4.2667 | 4.3313 | 4.3750 | 4.2591 | 4.2667 | 4.1950 | 4.2766 | 4.2146 | 3B |
| | | | 4.3527 | 4.3763 | 4.2664 | 4.3300 | 4.3763 | 4.2594 | 4.2670 | 4.1937 | 4.2763 | 4.2133 | |
| 4⅜-12 or 4.375-12 | UN | 2A | 4.3601 | 4.3730 | 4.3189 | 4.3485 | 4.3730 | 4.3124 | 4.3209 | 4.2850 | 4.3294 | 4.3030 | 2B |
| | | | 4.3592 | 4.3739 | 4.3186 | 4.3476 | 4.3739 | 4.3127 | 4.3212 | 4.2841 | 4.3291 | 4.3021 | |
| | | 3A | 4.3621 | 4.3750 | 4.3209 | 4.3521 | 4.3750 | 4.3160 | 4.3209 | 4.2850 | 4.3273 | 4.2948 | 3B |
| | | | 4.3612 | 4.3759 | 4.3206 | 4.3512 | 4.3759 | 4.3163 | 4.3212 | 4.2841 | 4.3270 | 4.2939 | |
| 4⅜-16 or 4.375-16 | UN | 2A | 4.3627 | 4.3732 | 4.3326 | 4.3538 | 4.3732 | 4.3267 | 4.3344 | 4.3070 | 4.3420 | 4.3210 | 2B |
| | | | 4.3618 | 4.3741 | 4.3323 | 4.3529 | 4.3741 | 4.3270 | 4.3347 | 4.3061 | 4.3417 | 4.3201 | |
| | | 3A | 4.3645 | 4.3750 | 4.3344 | 4.3571 | 4.3750 | 4.3300 | 4.3344 | 4.3070 | 4.3401 | 4.3158 | 3B |
| | | | 4.3636 | 4.3759 | 4.3341 | 4.3562 | 4.3759 | 4.3303 | 4.3347 | 4.3061 | 4.3398 | 4.3149 | |
| 4½-4 or 4.500-4 | UN | 2A | 4.4684 | 4.4965 | 4.3341 | 4.4308 | 4.4965 | 4.3225 | 4.3376 | 4.2290 | 4.3527 | 4.2670 | 2B |
| | | | 4.4669 | 4.4980 | 4.3338 | 4.4293 | 4.4980 | 4.3228 | 4.3379 | 4.2275 | 4.3524 | 4.2655 | |
| | | 3A | 4.4719 | 4.5000 | 4.3376 | 4.4372 | 4.5000 | 4.3289 | 4.3376 | 4.2290 | 4.3489 | 4.2594 | 3B |
| | | | 4.4704 | 4.5015 | 4.3373 | 4.4357 | 4.5015 | 4.3292 | 4.3379 | 4.2275 | 4.3486 | 4.2579 | |
| 4½-6 or 4.500-6 | UN | 2A | 4.4759 | 4.4969 | 4.3886 | 4.4506 | 4.4969 | 4.3784 | 4.3917 | 4.3200 | 4.4050 | 4.3500 | 2B |
| | | | 4.4746 | 4.4982 | 4.3883 | 4.4493 | 4.4982 | 4.3787 | 4.3920 | 4.3187 | 4.4047 | 4.3487 | |
| | | 3A | 4.4790 | 4.5000 | 4.3917 | 4.4562 | 4.5000 | 4.3840 | 4.3917 | 4.3200 | 4.4016 | 4.3396 | 3B |
| | | | 4.4777 | 4.5013 | 4.3914 | 4.4549 | 4.5013 | 4.3843 | 4.3920 | 4.3187 | 4.4013 | 4.3383 | |
| 4½-12 or 4.500-12 | UN | 2A | 4.4851 | 4.4980 | 4.4439 | 4.4735 | 4.4980 | 4.4374 | 4.4459 | 4.4100 | 4.4544 | 4.4280 | 2B |
| | | | 4.4842 | 4.4989 | 4.4436 | 4.4726 | 4.4989 | 4.4377 | 4.4462 | 4.4091 | 4.4541 | 4.4271 | |
| | | 3A | 4.4871 | 4.5000 | 4.4459 | 4.4771 | 4.5000 | 4.4410 | 4.4459 | 4.4100 | 4.4523 | 4.4198 | 3B |
| | | | 4.4862 | 4.5009 | 4.4456 | 4.4762 | 4.5009 | 4.4413 | 4.4462 | 4.4091 | 4.4520 | 4.4189 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 4½-16 or 4.500-16 | UN | 2A | 4.4877 | 4.4982 | 4.4576 | 4.4788 | 4.4982 | 4.4517 | 4.4594 | 4.4320 | 4.4670 | 4.4460 | 2B |
| | | | 4.4868 | 4.4991 | 4.4573 | 4.4779 | 4.4991 | 4.4520 | 4.4597 | 4.4311 | 4.4667 | 4.4451 | |
| | | 3A | 4.4895 | 4.5000 | 4.4594 | 4.4821 | 4.5000 | 4.4550 | 4.4594 | 4.4320 | 4.4651 | 4.4408 | 3B |
| | | | 4.4886 | 4.5009 | 4.4591 | 4.4812 | 4.5009 | 4.4553 | 4.4597 | 4.4311 | 4.4648 | 4.4399 | |
| 4⅝-6 or 4.625-6 | UN | 2A | 4.6009 | 4.6219 | 4.5136 | 4.5755 | 4.6219 | 4.5033 | 4.5167 | 4.4450 | 4.5300 | 4.4750 | 2B |
| | | | 4.5996 | 4.6232 | 4.5133 | 4.5742 | 4.6232 | 4.5036 | 4.5170 | 4.4437 | 4.5297 | 4.4737 | |
| | | 3A | 4.6040 | 4.6250 | 4.5167 | 4.5812 | 4.6250 | 4.5090 | 4.5167 | 4.4450 | 4.5267 | 4.4646 | 3B |
| | | | 4.6027 | 4.6263 | 4.5164 | 4.5799 | 4.6263 | 4.5093 | 4.5170 | 4.4437 | 4.5264 | 4.4633 | |
| 4⅝-12 or 4.625-12 | UN | 2A | 4.6101 | 4.6230 | 4.5689 | 4.5983 | 4.6230 | 4.5622 | 4.5709 | 4.5350 | 4.5796 | 4.5530 | 2B |
| | | | 4.6092 | 4.6239 | 4.5686 | 4.5974 | 4.6239 | 4.5625 | 4.5712 | 4.5341 | 4.5793 | 4.5521 | |
| | | 3A | 4.6121 | 4.6250 | 4.5709 | 4.6020 | 4.6250 | 4.5659 | 4.5709 | 4.5350 | 4.5775 | 4.5448 | 3B |
| | | | 4.6112 | 4.6259 | 4.5706 | 4.6011 | 4.6259 | 4.5662 | 4.5712 | 4.5341 | 4.5772 | 4.5439 | |
| 4⅝-16 or 4.625-16 | UN | 2A | 4.6127 | 4.6232 | 4.5826 | 4.6036 | 4.6232 | 4.5765 | 4.5844 | 4.5570 | 4.5923 | 4.5710 | 2B |
| | | | 4.6118 | 4.6241 | 4.5823 | 4.6027 | 4.6241 | 4.5768 | 4.5847 | 4.5561 | 4.5920 | 4.5701 | |
| | | 3A | 4.6145 | 4.6250 | 4.5844 | 4.6070 | 4.6250 | 4.5799 | 4.5844 | 4.5570 | 4.5903 | 4.5658 | 3B |
| | | | 4.6136 | 4.6259 | 4.5841 | 4.6061 | 4.6259 | 4.5802 | 4.5847 | 4.5561 | 4.5900 | 4.5649 | |
| 4¾-4 or 4.750-4 | UN | 2A | 4.7184 | 4.7465 | 4.5841 | 4.6807 | 4.7465 | 4.5724 | 4.5876 | 4.4790 | 4.6029 | 4.5170 | 2B |
| | | | 4.7169 | 4.7480 | 4.5838 | 4.6792 | 4.7480 | 4.5727 | 4.5879 | 4.4775 | 4.6026 | 4.5155 | |
| | | 3A | 4.7219 | 4.7500 | 4.5876 | 4.6871 | 4.7500 | 4.5788 | 4.5876 | 4.4790 | 4.5990 | 4.5094 | 3B |
| | | | 4.7204 | 4.7515 | 4.5873 | 4.6856 | 4.7515 | 4.5791 | 4.5879 | 4.4775 | 4.5987 | 4.5079 | |
| 4¾-6 or 4.750-6 | UN | 2A | 4.7259 | 4.7469 | 4.6386 | 4.7005 | 4.7469 | 4.6283 | 4.6417 | 4.5700 | 4.6551 | 4.6000 | 2B |
| | | | 4.7246 | 4.7482 | 4.6383 | 4.6992 | 4.7482 | 4.6286 | 4.6420 | 4.5687 | 4.6548 | 4.5987 | |
| | | 3A | 4.7290 | 4.7500 | 4.6417 | 4.7062 | 4.7500 | 4.6340 | 4.6417 | 4.5700 | 4.6518 | 4.5896 | 3B |
| | | | 4.7277 | 4.7513 | 4.6414 | 4.7049 | 4.7513 | 4.6343 | 4.6420 | 4.5687 | 4.6515 | 4.5883 | |
| 4¾-12 or 4.750-12 | UN | 2A | 4.7351 | 4.7480 | 4.6939 | 4.7233 | 4.7480 | 4.6872 | 4.6959 | 4.6600 | 4.7046 | 4.6780 | 2B |
| | | | 4.7342 | 4.7489 | 4.6936 | 4.7224 | 4.7489 | 4.6875 | 4.6962 | 4.6591 | 4.7043 | 4.6771 | |
| | | 3A | 4.7371 | 4.7500 | 4.6959 | 4.7270 | 4.7500 | 4.6909 | 4.6959 | 4.6600 | 4.7025 | 4.6698 | 3B |
| | | | 4.7362 | 4.7509 | 4.6956 | 4.7261 | 4.7509 | 4.6912 | 4.6962 | 4.6591 | 4.7022 | 4.6689 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 4¾-16 or 4.750-16 | UN | 2A | 4.7377 | 4.7482 | 4.7076 | 4.7286 | 4.7482 | 4.7015 | 4.7094 | 4.6820 | 4.7173 | 4.6960 | 2B |
| | | | 4.7368 | 4.7491 | 4.7073 | 4.7277 | 4.7491 | 4.7018 | 4.7097 | 4.6811 | 4.7170 | 4.6951 | |
| | | 3A | 4.7395 | 4.7500 | 4.7094 | 4.7320 | 4.7500 | 4.7049 | 4.7094 | 4.6820 | 4.7153 | 4.6908 | 3B |
| | | | 4.7386 | 4.7509 | 4.7091 | 4.7311 | 4.7509 | 4.7052 | 4.7097 | 4.6811 | 4.7150 | 4.6899 | |
| 4⅞-6 or 4.875-6 | UN | 2A | 4.8509 | 4.8719 | 4.7636 | 4.8254 | 4.8719 | 4.7532 | 4.7667 | 4.6950 | 4.7802 | 4.7250 | 2B |
| | | | 4.8496 | 4.8732 | 4.7633 | 4.8241 | 4.8732 | 4.7535 | 4.7670 | 4.6937 | 4.7799 | 4.7237 | |
| | | 3A | 4.8540 | 4.8750 | 4.7667 | 4.8311 | 4.8750 | 4.7589 | 4.7667 | 4.6950 | 4.7768 | 4.7146 | 3B |
| | | | 4.8527 | 4.8763 | 4.7664 | 4.8298 | 4.8763 | 4.7592 | 4.7670 | 4.6937 | 4.7765 | 4.7133 | |
| 4⅞-12 or 4.875-12 | UN | 2A | 4.8601 | 4.8730 | 4.8189 | 4.8483 | 4.8730 | 4.8122 | 4.8209 | 4.7850 | 4.8296 | 4.8030 | 2B |
| | | | 4.8592 | 4.8739 | 4.8186 | 4.8474 | 4.8739 | 4.8125 | 4.8212 | 4.7841 | 4.8293 | 4.8021 | |
| | | 3A | 4.8621 | 4.8750 | 4.8209 | 4.8520 | 4.8750 | 4.8159 | 4.8209 | 4.7850 | 4.8275 | 4.7948 | 3B |
| | | | 4.8612 | 4.8759 | 4.8206 | 4.8511 | 4.8759 | 4.8162 | 4.8212 | 4.7841 | 4.8272 | 4.7939 | |
| 4⅞-16 or 4.875-16 | UN | 2A | 4.8627 | 4.8732 | 4.8326 | 4.8536 | 4.8732 | 4.8265 | 4.8344 | 4.8070 | 4.8423 | 4.8210 | 2B |
| | | | 4.8618 | 4.8741 | 4.8323 | 4.8527 | 4.8741 | 4.8268 | 4.8347 | 4.8061 | 4.8420 | 4.8201 | |
| | | 3A | 4.8645 | 4.8750 | 4.8344 | 4.8570 | 4.8750 | 4.8299 | 4.8344 | 4.8070 | 4.8403 | 4.8158 | 3B |
| | | | 4.8636 | 4.8759 | 4.8341 | 4.8561 | 4.8759 | 4.8302 | 4.8347 | 4.8061 | 4.8400 | 4.8149 | |
| 5-4 or 5.000-4 | UN | 2A | 4.9683 | 4.9964 | 4.8340 | 4.9304 | 4.9964 | 4.8221 | 4.8376 | 4.7290 | 4.8530 | 4.7670 | 2B |
| | | | 4.9668 | 4.9979 | 4.8337 | 4.9289 | 4.9979 | 4.8224 | 4.8379 | 4.7275 | 4.8527 | 4.7655 | |
| | | 3A | 4.9719 | 5.0000 | 4.8376 | 4.9370 | 5.0000 | 4.8287 | 4.8376 | 4.7290 | 4.8492 | 4.7594 | 3B |
| | | | 4.9704 | 5.0015 | 4.8373 | 4.9355 | 5.0015 | 4.8290 | 4.8379 | 4.7275 | 4.8489 | 4.7579 | |
| 5-6 or 5.000-6 | UN | 2A | 4.9759 | 4.9969 | 4.8886 | 4.9503 | 4.9969 | 4.8781 | 4.8917 | 4.8200 | 4.9053 | 4.8500 | 2B |
| | | | 4.9746 | 4.9982 | 4.8883 | 4.9490 | 4.9982 | 4.8784 | 4.8920 | 4.8187 | 4.9050 | 4.8487 | |
| | | 3A | 4.9790 | 5.0000 | 4.8917 | 4.9561 | 5.0000 | 4.8839 | 4.8917 | 4.8200 | 4.9019 | 4.8396 | 3B |
| | | | 4.9777 | 5.0013 | 4.8914 | 4.9548 | 5.0013 | 4.8842 | 4.8920 | 4.8187 | 4.9016 | 4.8383 | |
| 5-12 or 5.000-12 | UN | 2A | 4.9851 | 4.9980 | 4.9439 | 4.9733 | 4.9980 | 4.9372 | 4.9459 | 4.9100 | 4.9546 | 4.9280 | 2B |
| | | | 4.9842 | 4.9989 | 4.9436 | 4.9724 | 4.9989 | 4.9375 | 4.9462 | 4.9091 | 4.9543 | 4.9271 | |
| | | 3A | 4.9871 | 5.0000 | 4.9459 | 4.9770 | 5.0000 | 4.9409 | 4.9459 | 4.9100 | 4.9525 | 4.9198 | 3B |
| | | | 4.9862 | 5.0009 | 4.9456 | 4.9761 | 5.0009 | 4.9412 | 4.9462 | 4.9091 | 4.9522 | 4.9189 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B
## UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 5-16 or 5.000-16 | UN | 2A | 4.9877 | 4.9982 | 4.9576 | 4.9786 | 4.9982 | 4.9515 | 4.9594 | 4.9320 | 4.9673 | 4.9460 | 2B |
| | | | 4.9868 | 4.9991 | 4.9573 | 4.9777 | 4.9991 | 4.9518 | 4.9597 | 4.9311 | 4.9670 | 4.9451 | |
| | | 3A | 4.9895 | 5.0000 | 4.9594 | 4.9820 | 5.0000 | 4.9549 | 4.9594 | 4.9320 | 4.9653 | 4.9408 | 3B |
| | | | 4.9886 | 5.0009 | 4.9591 | 4.9811 | 5.0009 | 4.9552 | 4.9597 | 4.9311 | 4.9650 | 4.9399 | |
| 5⅛-6 or 5.125-6 | UN | 2A | 5.1008 | 5.1218 | 5.0135 | 5.0752 | 5.1218 | 5.0030 | 5.0167 | 4.9450 | 5.0304 | 4.9750 | 2B |
| | | | 5.0995 | 5.1231 | 5.0132 | 5.0739 | 5.1231 | 5.0033 | 5.0170 | 4.9437 | 5.0301 | 4.9737 | |
| | | 3A | 5.1040 | 5.1250 | 5.0167 | 5.0810 | 5.1250 | 5.0088 | 5.0167 | 4.9450 | 5.0270 | 4.9646 | 3B |
| | | | 5.1027 | 5.1263 | 5.0164 | 5.0797 | 5.1263 | 5.0091 | 5.0170 | 4.9437 | 5.0267 | 4.9633 | |
| 5⅛-12 or 5.125-12 | UN | 2A | 5.1101 | 5.1230 | 5.0689 | 5.0983 | 5.1230 | 5.0622 | 5.0709 | 5.0350 | 5.0796 | 5.0530 | 2B |
| | | | 5.1092 | 5.1239 | 5.0686 | 5.0974 | 5.1239 | 5.0625 | 5.0712 | 5.0341 | 5.0793 | 5.0521 | |
| | | 3A | 5.1121 | 5.1250 | 5.0709 | 5.1020 | 5.1250 | 5.0659 | 5.0709 | 5.0350 | 5.0775 | 5.0448 | 3B |
| | | | 5.1112 | 5.1259 | 5.0706 | 5.1011 | 5.1259 | 5.0662 | 5.0712 | 5.0341 | 5.0772 | 5.0439 | |
| 5⅛-16 or 5.125-16 | UN | 2A | 5.1127 | 5.1232 | 5.0826 | 5.1036 | 5.1232 | 5.0765 | 5.0844 | 5.0570 | 5.0923 | 5.0710 | 2B |
| | | | 5.1118 | 5.1241 | 5.0823 | 5.1027 | 5.1241 | 5.0768 | 5.0847 | 5.0561 | 5.0920 | 5.0701 | |
| | | 3A | 5.1145 | 5.1250 | 5.0844 | 5.1070 | 5.1250 | 5.0799 | 5.0844 | 5.0570 | 5.0903 | 5.0658 | 3B |
| | | | 5.1136 | 5.1259 | 5.0841 | 5.1061 | 5.1259 | 5.0802 | 5.0847 | 5.0561 | 5.0900 | 5.0649 | |
| 5¼-4 or 5.250-4 | UN | 2A | 5.2183 | 5.2464 | 5.0840 | 5.1803 | 5.2464 | 5.0720 | 5.0876 | 4.9790 | 5.1032 | 5.0170 | 2B |
| | | | 5.2168 | 5.2479 | 5.0837 | 5.1788 | 5.2479 | 5.0723 | 5.0879 | 4.9775 | 5.1029 | 5.0155 | |
| | | 3A | 5.2219 | 5.2500 | 5.0876 | 5.1869 | 5.2500 | 5.0786 | 5.0876 | 4.9790 | 5.0993 | 5.0094 | 3B |
| | | | 5.2204 | 5.2515 | 5.0873 | 5.1854 | 5.2515 | 5.0789 | 5.0879 | 4.9775 | 5.0990 | 5.0079 | |
| 5¼-6 or 5.250-6 | UN | 2A | 5.2258 | 5.2468 | 5.1385 | 5.2001 | 5.2468 | 5.1279 | 5.1417 | 5.0700 | 5.1555 | 5.1000 | 2B |
| | | | 5.2245 | 5.2481 | 5.1382 | 5.1988 | 5.2481 | 5.1282 | 5.1420 | 5.0687 | 5.1552 | 5.0987 | |
| | | 3A | 5.2290 | 5.2500 | 5.1417 | 5.2060 | 5.2500 | 5.1338 | 5.1417 | 5.0700 | 5.1520 | 5.0896 | 3B |
| | | | 5.2277 | 5.2513 | 5.1414 | 5.2047 | 5.2513 | 5.1341 | 5.1420 | 5.0687 | 5.1517 | 5.0883 | |
| 5¼-12 or 5.250-12 | UN | 2A | 5.2351 | 5.2480 | 5.1939 | 5.2233 | 5.2480 | 5.1872 | 5.1959 | 5.1600 | 5.2046 | 5.1780 | 2B |
| | | | 5.2342 | 5.2489 | 5.1936 | 5.2224 | 5.2489 | 5.1875 | 5.1962 | 5.1591 | 5.2043 | 5.1771 | |
| | | 3A | 5.2371 | 5.2500 | 5.1959 | 5.2270 | 5.2500 | 5.1909 | 5.1959 | 5.1600 | 5.2025 | 5.1698 | 3B |
| | | | 5.2362 | 5.2509 | 5.1956 | 5.2261 | 5.2509 | 5.1912 | 5.1962 | 5.1591 | 5.2022 | 5.1689 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 5¼-16 or 5.250-16 | UN | 2A | 5.2377 | 5.2482 | 5.2076 | 5.2286 | 5.2482 | 5.2015 | 5.2094 | 5.1820 | 5.2173 | 5.1960 | 2B |
| | | | 5.2368 | 5.2491 | 5.2073 | 5.2277 | 5.2491 | 5.2018 | 5.2097 | 5.1811 | 5.2170 | 5.1951 | |
| | | 3A | 5.2395 | 5.2500 | 5.2094 | 5.2320 | 5.2500 | 5.2049 | 5.2094 | 5.1820 | 5.2153 | 5.1908 | 3B |
| | | | 5.2386 | 5.2509 | 5.2091 | 5.2311 | 5.2509 | 5.2052 | 5.2097 | 5.1811 | 5.2150 | 5.1899 | |
| 5⅜-6 or 5.375-6 | UN | 2A | 5.3508 | 5.3718 | 5.2635 | 5.3251 | 5.3718 | 5.2529 | 5.2667 | 5.1950 | 5.2805 | 5.2250 | 2B |
| | | | 5.3495 | 5.3731 | 5.2632 | 5.3238 | 5.3731 | 5.2532 | 5.2670 | 5.1937 | 5.2802 | 5.2237 | |
| | | 3A | 5.3540 | 5.3750 | 5.2667 | 5.3309 | 5.3750 | 5.2587 | 5.2667 | 5.1950 | 5.2771 | 5.2146 | 3B |
| | | | 5.3527 | 5.3763 | 5.2664 | 5.3296 | 5.3763 | 5.2590 | 5.2670 | 5.1937 | 5.2768 | 5.2133 | |
| 5⅜-12 or 5.375-12 | UN | 2A | 5.3601 | 5.3730 | 5.3189 | 5.3483 | 5.3730 | 5.3122 | 5.3209 | 5.2850 | 5.3296 | 5.3030 | 2B |
| | | | 5.3592 | 5.3739 | 5.3186 | 5.3474 | 5.3739 | 5.3125 | 5.3212 | 5.2841 | 5.3293 | 5.3021 | |
| | | 3A | 5.3621 | 5.3750 | 5.3209 | 5.3520 | 5.3750 | 5.3159 | 5.3209 | 5.2850 | 5.3275 | 5.2948 | 3B |
| | | | 5.3612 | 5.3759 | 5.3206 | 5.3511 | 5.3759 | 5.3162 | 5.3212 | 5.2841 | 5.3272 | 5.2939 | |
| 5⅜-16 or 5.375-16 | UN | 2A | 5.3627 | 5.3732 | 5.3326 | 5.3536 | 5.3732 | 5.3265 | 5.3344 | 5.3070 | 5.3423 | 5.3210 | 2B |
| | | | 5.3618 | 5.3741 | 5.3323 | 5.3527 | 5.3741 | 5.3268 | 5.3347 | 5.3061 | 5.3420 | 5.3201 | |
| | | 3A | 5.3645 | 5.3750 | 5.3344 | 5.3570 | 5.3750 | 5.3299 | 5.3344 | 5.3070 | 5.3403 | 5.3158 | 3B |
| | | | 5.3636 | 5.3759 | 5.3341 | 5.3561 | 5.3759 | 5.3302 | 5.3347 | 5.3061 | 5.3400 | 5.3149 | |
| 5½-4 or 5.500-4 | UN | 2A | 5.4683 | 5.4964 | 5.3340 | 5.4302 | 5.4964 | 5.3219 | 5.3376 | 5.2290 | 5.3534 | 5.2670 | 2B |
| | | | 5.4668 | 5.4979 | 5.3337 | 5.4287 | 5.4979 | 5.3222 | 5.3379 | 5.2275 | 5.3531 | 5.2655 | |
| | | 3A | 5.4719 | 5.5000 | 5.3376 | 5.4368 | 5.5000 | 5.3285 | 5.3376 | 5.2290 | 5.3494 | 5.2594 | 3B |
| | | | 5.4704 | 5.5015 | 5.3373 | 5.4353 | 5.5015 | 5.3288 | 5.3379 | 5.2275 | 5.3491 | 5.2579 | |
| 5½-6 or 5.500-6 | UN | 2A | 5.4758 | 5.4968 | 5.3885 | 5.4500 | 5.4968 | 5.3778 | 5.3917 | 5.3200 | 5.4056 | 5.3500 | 2B |
| | | | 5.4745 | 5.4981 | 5.3882 | 5.4487 | 5.4981 | 5.3781 | 5.3920 | 5.3187 | 5.4053 | 5.3487 | |
| | | 3A | 5.4790 | 5.5000 | 5.3917 | 5.4559 | 5.5000 | 5.3837 | 5.3917 | 5.3200 | 5.4021 | 5.3396 | 3B |
| | | | 5.4777 | 5.5013 | 5.3914 | 5.4546 | 5.5013 | 5.3840 | 5.3920 | 5.3187 | 5.4018 | 5.3383 | |
| 5½-12 or 5.500-12 | UN | 2A | 5.4851 | 5.4980 | 5.4439 | 5.4733 | 5.4980 | 5.4372 | 5.4459 | 5.4100 | 5.4546 | 5.4280 | 2B |
| | | | 5.4842 | 5.4989 | 5.4436 | 5.4724 | 5.4989 | 5.4375 | 5.4462 | 5.4091 | 5.4543 | 5.4271 | |
| | | 3A | 5.4871 | 5.5000 | 5.4459 | 5.4770 | 5.5000 | 5.4409 | 5.4459 | 5.4100 | 5.4525 | 5.4198 | 3B |
| | | | 5.4862 | 5.5009 | 5.4456 | 5.4761 | 5.5009 | 5.4412 | 5.4462 | 5.4091 | 5.4522 | 5.4189 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 5½-16 or 5.500-16 | UN | 2A | 5.4877 | 5.4982 | 5.4576 | 5.4786 | 5.4982 | 5.4515 | 5.4594 | 5.4320 | 5.4673 | 5.4460 | 2B |
| | | | 5.4868 | 5.4991 | 5.4573 | 5.4777 | 5.4991 | 5.4518 | 5.4597 | 5.4311 | 5.4670 | 5.4451 | |
| | | 3A | 5.4895 | 5.5000 | 5.4594 | 5.4820 | 5.5000 | 5.4549 | 5.4594 | 5.4320 | 5.4653 | 5.4408 | 3B |
| | | | 5.4886 | 5.5009 | 5.4591 | 5.4811 | 5.5009 | 5.4552 | 5.4597 | 5.4311 | 5.4650 | 5.4399 | |
| 5⅝-6 or 5.625-6 | UN | 2A | 5.6008 | 5.6218 | 5.5135 | 5.5749 | 5.6218 | 5.5027 | 5.5167 | 5.4450 | 5.5307 | 5.4750 | 2B |
| | | | 5.5995 | 5.6231 | 5.5132 | 5.5736 | 5.6231 | 5.5030 | 5.5170 | 5.4437 | 5.5304 | 5.4737 | |
| | | 3A | 5.6040 | 5.6250 | 5.5167 | 5.5808 | 5.6250 | 5.5086 | 5.5167 | 5.4450 | 5.5272 | 5.4646 | 3B |
| | | | 5.6027 | 5.6263 | 5.5164 | 5.5795 | 5.6263 | 5.5089 | 5.5170 | 5.4437 | 5.5269 | 5.4633 | |
| 5⅝-12 or 5.625-12 | UN | 2A | 5.6100 | 5.6229 | 5.5688 | 5.5980 | 5.6229 | 5.5619 | 5.5709 | 5.5350 | 5.5799 | 5.5530 | 2B |
| | | | 5.6091 | 5.6238 | 5.5685 | 5.5971 | 5.6238 | 5.5622 | 5.5712 | 5.5341 | 5.5796 | 5.5521 | |
| | | 3A | 5.6121 | 5.6250 | 5.5709 | 5.6018 | 5.6250 | 5.5657 | 5.5709 | 5.5350 | 5.5776 | 5.5448 | 3B |
| | | | 5.6112 | 5.6259 | 5.5706 | 5.6009 | 5.6259 | 5.5660 | 5.5712 | 5.5341 | 5.5773 | 5.5439 | |
| 5⅝-16 or 5.625-16 | UN | 2A | 5.6126 | 5.6231 | 5.5825 | 5.6034 | 5.6231 | 5.5763 | 5.5844 | 5.5570 | 5.5925 | 5.5710 | 2B |
| | | | 5.6117 | 5.6240 | 5.5822 | 5.6025 | 5.6240 | 5.5766 | 5.5847 | 5.5561 | 5.5922 | 5.5701 | |
| | | 3A | 5.6145 | 5.6250 | 5.5844 | 5.6068 | 5.6250 | 5.5797 | 5.5844 | 5.5570 | 5.5905 | 5.5658 | 3B |
| | | | 5.6136 | 5.6259 | 5.5841 | 5.6059 | 5.6259 | 5.5800 | 5.5847 | 5.5561 | 5.5902 | 5.5649 | |
| 5¾-4 or 5.750-4 | UN | 2A | 5.7182 | 5.7463 | 5.5839 | 5.6800 | 5.7463 | 5.5717 | 5.5876 | 5.4790 | 5.6035 | 5.5170 | 2B |
| | | | 5.7167 | 5.7478 | 5.5836 | 5.6785 | 5.7478 | 5.5720 | 5.5879 | 5.4775 | 5.6032 | 5.5155 | |
| | | 3A | 5.7219 | 5.7500 | 5.5876 | 5.6867 | 5.7500 | 5.5784 | 5.5876 | 5.4790 | 5.5995 | 5.5094 | 3B |
| | | | 5.7204 | 5.7515 | 5.5873 | 5.6852 | 5.7515 | 5.5787 | 5.5879 | 5.4775 | 5.5992 | 5.5079 | |
| 5¾-6 or 5.750-6 | UN | 2A | 5.7258 | 5.7468 | 5.6385 | 5.6999 | 5.7468 | 5.6277 | 5.6417 | 5.5700 | 5.6558 | 5.6000 | 2B |
| | | | 5.7245 | 5.7481 | 5.6382 | 5.6986 | 5.7481 | 5.6280 | 5.6420 | 5.5687 | 5.6555 | 5.5987 | |
| | | 3A | 5.7290 | 5.7500 | 5.6417 | 5.7058 | 5.7500 | 5.6336 | 5.6417 | 5.5700 | 5.6523 | 5.5896 | 3B |
| | | | 5.7277 | 5.7513 | 5.6414 | 5.7045 | 5.7513 | 5.6339 | 5.6420 | 5.5687 | 5.6520 | 5.5883 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 5¾-12 or 5.750-12 | UN | 2A | 5.7350 | 5.7479 | 5.6938 | 5.7230 | 5.7479 | 5.6869 | 5.6959 | 5.6600 | 5.7049 | 5.6780 | 2B |
| | | | 5.7341 | 5.7488 | 5.6935 | 5.7221 | 5.7488 | 5.6872 | 5.6962 | 5.6591 | 5.7046 | 5.6771 | |
| | | 3A | 5.7371 | 5.7500 | 5.6959 | 5.7268 | 5.7500 | 5.6907 | 5.6959 | 5.6600 | 5.7026 | 5.6698 | 3B |
| | | | 5.7362 | 5.7509 | 5.6956 | 5.7259 | 5.7509 | 5.6910 | 5.6962 | 5.6591 | 5.7023 | 5.6689 | |
| 5¾-16 or 5.750-16 | UN | 2A | 5.7376 | 5.7481 | 5.7075 | 5.7284 | 5.7481 | 5.7013 | 5.7094 | 5.6820 | 5.7175 | 5.6960 | 2B |
| | | | 5.7367 | 5.7490 | 5.7072 | 5.7275 | 5.7490 | 5.7016 | 5.7097 | 5.6811 | 5.7172 | 5.6951 | |
| | | 3A | 5.7395 | 5.7500 | 5.7094 | 5.7318 | 5.7500 | 5.7047 | 5.7094 | 5.6820 | 5.7155 | 5.6908 | 3B |
| | | | 5.7386 | 5.7509 | 5.7091 | 5.7309 | 5.7509 | 5.7050 | 5.7097 | 5.6811 | 5.7152 | 5.6899 | |
| 5⅞-6 or 5.875-6 | UN | 2A | 5.8507 | 5.8717 | 5.7634 | 5.8247 | 5.8717 | 5.7525 | 5.7667 | 5.6950 | 5.7809 | 5.7250 | 2B |
| | | | 5.8494 | 5.8730 | 5.7631 | 5.8234 | 5.8730 | 5.7528 | 5.7670 | 5.6937 | 5.7806 | 5.7237 | |
| | | 3A | 5.8540 | 5.8750 | 5.7667 | 5.8307 | 5.8750 | 5.7585 | 5.7667 | 5.6950 | 5.7773 | 5.7146 | 3B |
| | | | 5.8527 | 5.8763 | 5.7664 | 5.8294 | 5.8763 | 5.7588 | 5.7670 | 5.6937 | 5.7770 | 5.7133 | |
| 5⅞-12 or 5.875-12 | UN | 2A | 5.8600 | 5.8729 | 5.8188 | 5.8480 | 5.8729 | 5.8119 | 5.8209 | 5.7850 | 5.8299 | 5.8030 | 2B |
| | | | 5.8591 | 5.8738 | 5.8185 | 5.8471 | 5.8738 | 5.8122 | 5.8212 | 5.7841 | 5.8296 | 5.8021 | |
| | | 3A | 5.8621 | 5.8750 | 5.8209 | 5.8518 | 5.8750 | 5.8157 | 5.8209 | 5.7850 | 5.8276 | 5.7948 | 3B |
| | | | 5.8612 | 5.8759 | 5.8206 | 5.8509 | 5.8759 | 5.8160 | 5.8212 | 5.7841 | 5.8273 | 5.7939 | |
| 5⅞-16 or 5.875-16 | UN | 2A | 5.8626 | 5.8731 | 5.8325 | 5.8534 | 5.8731 | 5.8263 | 5.8344 | 5.8070 | 5.8425 | 5.8210 | 2B |
| | | | 5.8617 | 5.8740 | 5.8322 | 5.8525 | 5.8740 | 5.8266 | 5.8347 | 5.8061 | 5.8422 | 5.8201 | |
| | | 3A | 5.8645 | 5.8750 | 5.8344 | 5.8568 | 5.8750 | 5.8297 | 5.8344 | 5.8070 | 5.8405 | 5.8158 | 3B |
| | | | 5.8636 | 5.8759 | 5.8341 | 5.8559 | 5.8759 | 5.8300 | 5.8347 | 5.8061 | 5.8402 | 5.8149 | |
| 6-4 or 6.000-4 | UN | 2A | 5.9682 | 5.9963 | 5.8339 | 5.9298 | 5.9963 | 5.8215 | 5.8376 | 5.7290 | 5.8537 | 5.7670 | 2B |
| | | | 5.9667 | 5.9978 | 5.8336 | 5.9283 | 5.9978 | 5.8218 | 5.8379 | 5.7275 | 5.8534 | 5.7655 | |
| | | 3A | 5.9719 | 6.0000 | 5.8376 | 5.9366 | 6.0000 | 5.8283 | 5.8376 | 5.7290 | 5.8496 | 5.7594 | 3B |
| | | | 5.9704 | 6.0015 | 5.8373 | 5.9351 | 6.0015 | 5.8286 | 5.8379 | 5.7275 | 5.8493 | 5.7579 | |

## TABLE 11 SETTING GAGES FOR STANDARD THREAD SERIES, CLASSES, 1A, 2A, 3A, 1B, 2B, AND 3B UNIFIED SCREW THREADS — LIMITS OF SIZE (CONT'D)

| Nominal Size and Threads/in. | Series Designation | Class | W Thread-Setting Plugs | | | | | | W Thread-Setting Rings | | | | Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | GO | | | NOT GO (LO) | | | GO | | NOT GO (HI) | | |
| | | | Major Diameter | | Pitch Diam. | Major Diameter | | Pitch Diam. | Pitch Diam. | Minor Diam. | Pitch Diam. | Minor Diam. | |
| | | | Truncated | Full-Form | | Truncated | Full-Form | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | | | in. | in. | in. | in. | in. | in. | in. | in. | in. | in. | |
| 6-6 or 6.000-6 | UN | 2A | 5.9757 | 5.9967 | 5.8884 | 5.9497 | 5.9967 | 5.8775 | 5.8917 | 5.8200 | 5.9059 | 5.8500 | 2B |
| | | | 5.9744 | 5.9980 | 5.8881 | 5.9484 | 5.9980 | 5.8778 | 5.8920 | 5.8187 | 5.9056 | 5.8487 | |
| | | 3A | 5.9790 | 6.0000 | 5.8917 | 5.9557 | 6.0000 | 5.8835 | 5.8917 | 5.8200 | 5.9024 | 5.8396 | 3B |
| | | | 5.9777 | 6.0013 | 5.8914 | 5.9544 | 6.0013 | 5.8838 | 5.8920 | 5.8187 | 5.9021 | 5.8383 | |
| 6-12 or 6.000-12 | UN | 2A | 5.9850 | 5.9979 | 5.9438 | 5.9730 | 5.9979 | 5.9369 | 5.9459 | 5.9100 | 5.9549 | 5.9280 | 2B |
| | | | 5.9841 | 5.9988 | 5.9435 | 5.9721 | 5.9988 | 5.9372 | 5.9462 | 5.9091 | 5.9546 | 5.9271 | |
| | | 3A | 5.9871 | 6.0000 | 5.9459 | 5.9768 | 6.0000 | 5.9407 | 5.9459 | 5.9100 | 5.9526 | 5.9198 | 3B |
| | | | 5.9862 | 6.0009 | 5.9456 | 5.9759 | 6.0009 | 5.9410 | 5.9462 | 5.9091 | 5.9523 | 5.9189 | |
| 6-16 or 6.000-16 | UN | 2A | 5.9876 | 5.9981 | 5.9575 | 5.9784 | 5.9981 | 5.9513 | 5.9594 | 5.9320 | 5.9675 | 5.9460 | 2B |
| | | | 5.9867 | 5.9990 | 5.9572 | 5.9775 | 5.9990 | 5.9516 | 5.9597 | 5.9311 | 5.9672 | 5.9451 | |
| | | 3A | 5.9895 | 6.0000 | 5.9594 | 5.9818 | 6.0000 | 5.9547 | 5.9594 | 5.9320 | 5.9655 | 5.9408 | 3B |
| | | | 5.9886 | 6.0009 | 5.9591 | 5.9809 | 6.0009 | 5.9550 | 5.9597 | 5.9311 | 5.9652 | 5.9399 | |

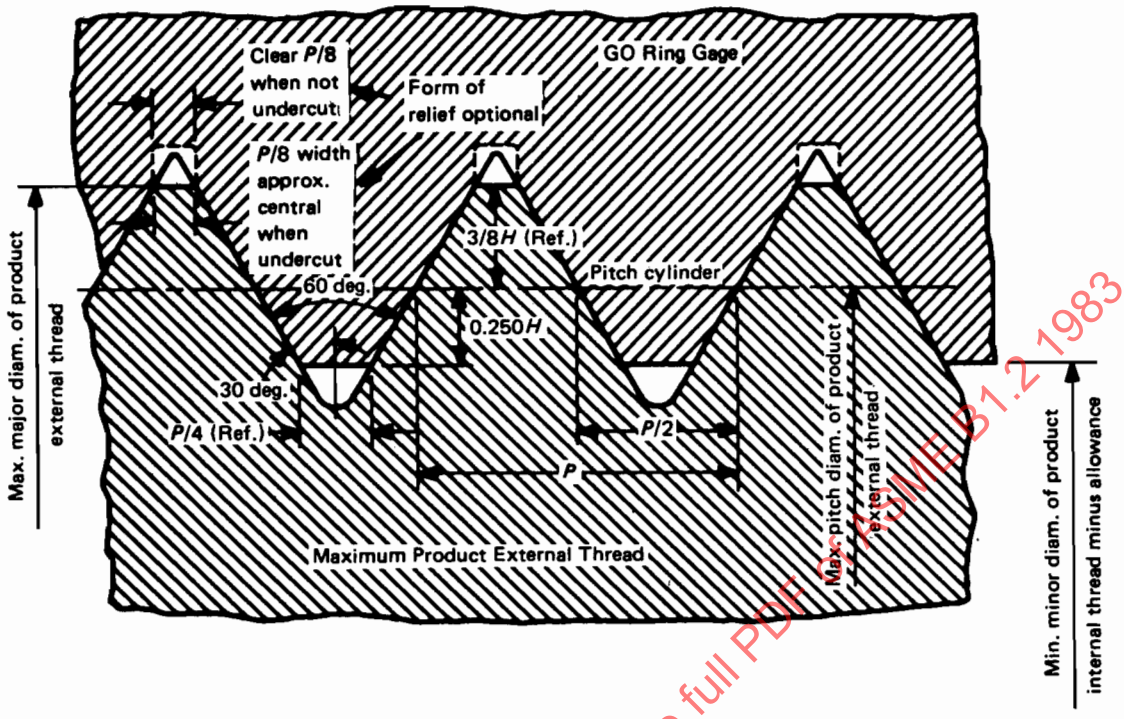



FIG. 18 MAXIMUM-MATERIAL GO FUNCTIONAL LIMIT

**5.1.6 Thread Roots.** The major diameter of the GO thread ring gage shall be cleared beyond $P/8$ width of flat by either an extension of the flanks toward a sharp vee or by a clearance cut of substantially $P/8$ width and approximately central. The root clearance must be such that the maximum major diameter of the full-form section of the truncated thread-setting plug gage is cleared after the gage has been properly set to size.

**5.1.7 Runout of Pitch and Minor Cylinders.** On thread ring gages, an eccentric condition results in an undersize effective minor diameter, having a width of flat less than $P/4$, which may encroach on the maximum permissible limit for the root profile of the product external thread. The permissible minimum effective minor diameter as determined by measurements of runout (full-indicator movement) with respect to the pitch cylinder shall not be less than the specified minimum minor diameter minus the sum of the gage tolerances for the pitch and minor diameters.

**5.1.8 Pitch Cylinder.** Pitch cylinder is transferred by the setting of the thread ring gage to the applicable truncated setting plug gage.

**5.1.9 Lead and Half-Angle Variations.** Lead and half-angle variations shall be within the limits specified in Table 6. Misalignment of the threads on each side of the adjustable slot may not exceed the lead limits.

**5.1.10 Incomplete Thread.** The feather edge at both ends of the thread ring gage shall be removed. On gages larger than 1/2 in. or with a pitch coarser than 20 threads/in., remove not more than one pitch of the partially formed thread at each end to obtain a full-thread blunt start. On gages 1/2 in. and smaller or with a pitch of 20 threads/in. or finer, the end threads may have a 60 deg. chamfer from the axis of the gage to a depth of half to one pitch. This is acceptable in lieu of the blunt start.

**5.1.11 Chip Grooves.** GO thread ring gages of the adjustable type do not require chip grooves as the adjusting slots serve this purpose. Solid working thread ring gages are made with or without chip grooves, depending upon the gage designer's requirements.

**5.1.12 Identification.** The GO thread ring gage should be identified by the nominal size, threads/in., thread series, class, GO, PD, and pitch diameter.

EXAMPLE:
1/4-20 (or .250-20) UNC-2A GO PD.2164

## 5.2 NOT GO (LO) Thread Ring Gages (Table 1 — Gage 1.2)

**5.2.1 Purpose and Use.** The NOT GO (LO) thread ring gage inspects the NOT GO (LO) functional diameter limit, $B_1$, of product external thread. The NOT GO (LO) thread ring gage, when properly set to its respective calibrated thread-setting plug, represents the NOT GO (LO) functional diameter limit of the product external thread. The NOT GO (LO) thread ring gage and NOT GO (LO) threaded segment type indicating gage are more reliable for checking thin-walled parts which might be deformed bv a NOT GO (LO) thread snap. NOT GO (LO) thread ring gages must be set to the applicable W tolerance-setting plugs.

NOT GO (LO) thread ring gages when applied to the product external thread may engage only the end threads (which may not be representative of the complete product thread).

Starting threads on NOT GO (LO) thread ring gages are subject to greater wear than the remaining threads. Such wear in combination with the incomplete threads at the end of the product thread permit further entry in the gage. NOT GO (LO) functional diameter is acceptable when the NOT GO (LO) thread ring gage applied to the product external thread does not pass over the thread more than three complete turns. The gage should not be forced. Special requirements such as exceptionally thin or ductile material, small number of threads, etc., may necessitate modification of this practice.

**5.2.2 Basic Design.** To better check the NOT GO (LO) functional diameter limit, the flank contact is less than that of the GO gage, and the length of the gaging element where practical is less than that of the GO gage.

**5.2.3 Gage Blanks.** For practical and economic reasons, the designs and thicknesses of thread ring gages have been standardized for various size ranges and pitches (see ANSI B47.1 or Table A4).

**5.2.4 Thread Form.** The specifications for thread form are summarized in Table 4 and Fig. 19.

**5.2.5 Thread Crests.** The minimum minor diameter of the NOT GO (LO) thread ring gage shall be equal to the minimum pitch diameter of the external thread minus $0.25H$ with gage tolerance plus. This corresponds to a width of flat at the crest of the gage equal to $0.375p$. See Table 4.

**5.2.6 Thread Roots.** The major diameter of the NOT GO (LO) thread ring gage shall clear the product thread by using a clearance cut of $0.25p$ width approximately central. The NOT GO (LO) thread ring gage shall clear the maximum major diameter of the full-form portion of the truncated thread-setting plug for the NOT GO (LO) thread ring gage. Thus, contact of the thread gage can occur on the sides of the threads, but not on the crest or root. Also, the effect of angle variation on the fit of the gage with the product thread is minimized.

**5.2.7 Runout of Pitch and Minor Diameter Cylinders.** The permissible minimum effective minor diameter, as determined by subtracting runout measurement (full-indicator movement) with respect to the pitch cylinder from the measured minor diameter, shall not be less than the specified minimum minor diameter minus twice the sum of the gage tolerances for pitch and minor diameters.

**5.2.8 Pitch Cylinder.** Pitch cylinder is transferred by the setting of the thread ring gage to the applicable truncated setting plug gage.

**5.2.9 Lead and Half-Angle Variations.** Lead and half-angle variations shall be within the limits specified in Table 6.

**5.2.10 Incomplete Thread.** The feather edge at both ends of the thread ring gage shall be removed. On gages larger than 1/2 in. nominal size or having pitches coarser than 20 threads/in., not more than one complete turn of the end threads shall be removed to obtain a full-thread blunt start. On gages 1/2 in. nominal size and smaller or having pitches of 20 threads/in. or finer, a 60 deg. chamfer from the axis of the gage is acceptable in lieu of the blunt start.

**5.2.11 Identification.** The NOT GO (LO) thread gage should be identified by the nominal size, threads/in., thread series, class, NOT GO, PD, and pitch diameter.

EXAMPLE:
1/420 (or .250-20) UNC-2A NOT GO PD.2127

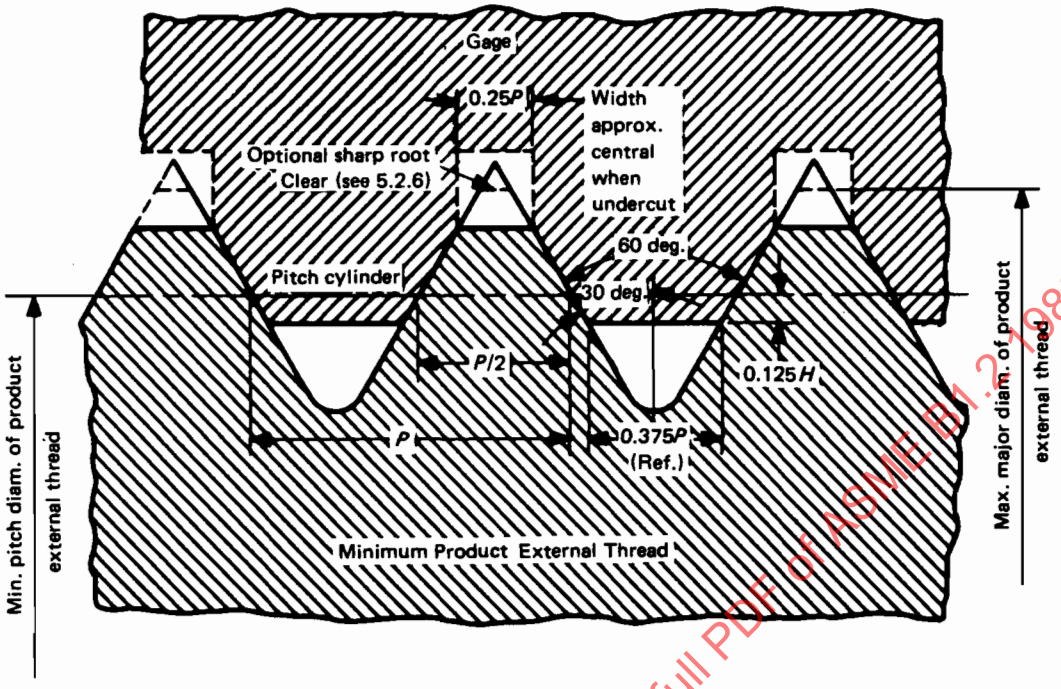



FIG. 19 NOT GO (LO) FUNCTIONAL DIAMETER LIMIT



### 5.3 Thread Snap Gages — GO Segments or Rolls (Table 1 — Gage 2.1 and 2.3)

**5.3.1 Purpose and Use.** The thread snap gage with two GO threaded segments or two GO zero lead rolls inspects the maximum-material GO functional limit, $A_1$, of product external thread. The setting of the GO segments or rolls represents the maximum material GO functional limit of the product external thread, and its purpose is to assure interchangeable assembly of maximum-material mating parts. The gaging length of the segments or rolls is equal to the length of the standard GO ring gages. The segments or rolls have a cumulative check of all thread elements except the major diameter.

The GO thread snap gage can also check roundness of the pitch cylinder for 180 deg. ovality by using the gage at different external diametral locations on the product thread.

**5.3.2 Basic Design.** The GO segments and rolls assembled into gage frames are the design of the individual gage manufacturer. The lengths of the two threaded segments and the two thread rolls spaced 180 deg. apart are equal to the standard GO ring gage blank lengths for practical and economic reasons. See ANSI B47.1 or Table A4.

GO thread segments shall engage 25% or more of the product circumference. Product shall be checked around full circumference of thread at sufficient axial positions to check the full-thread length.

Thread rolls shall be applied at several locations (three if possible) axially over the full-thread length of the product. The circumference shall be checked at each position.

**5.3.3 Thread Form.** The specifications for thread form are summarized in Table 4 and Fig. 20.

**5.3.4 Thread Crests.** The distance between the minor diameter of the GO thread segments and the outside diameter of GO thread rolls shall be equal to the maximum pitch diameter of the product external thread minus $H/2$ with a minus gage tolerance when assembled in gage frame. This corresponds to a width of flat of $P/4$ on crests. The thread crests shall be flat in an axial plane and parallel to the axis.

**5.3.5 Thread Roots.** The major diameter of the GO thread segments and root diameter of the GO rolls shall be cleared beyond a $P/8$ flat either by an extension of the flanks of the thread toward a sharp vee or by an undercut no greater than $P/8$ maximum width and approximately central. The root clearance

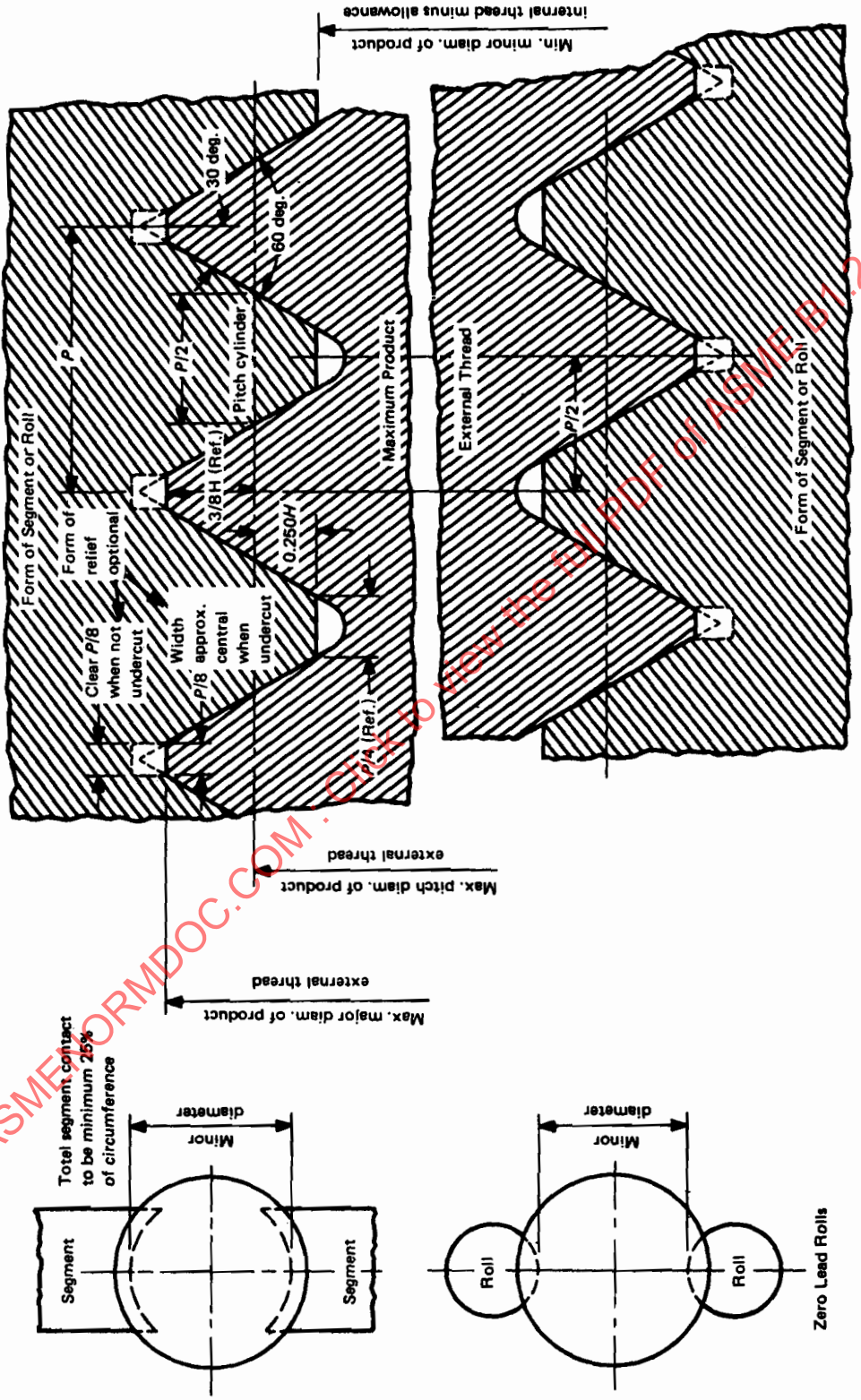



FIG. 20 THREAD SNAP GAGES — MAXIMUM-MATERIAL GO FUNCTIONAL LIMIT

must be such that the maximum major diameter of the full-form section of the truncated thread-setting plug gage is cleared after the gage has been properly set to size.

**5.3.6 Runout.** The pitch and minor cylinders of the threaded portion of the GO segments or rolls shall not exceed the specified runout as determined by measurements of runout (full-indicator movement). On each gaging member, with respect to the pitch cylinder, runout shall not exceed one-half the X gage minor diameter tolerance.

**5.3.7 Pitch Cylinder.** The pitch cylinder of the threaded GO segments and rolls shall be straight within the X gage pitch diameter limits specified.

**5.3.8 Lead, Pitch, and Half-Angle Variations.** Lead, pitch, and half-angle variations shall be within the limits specified. See Table 6.

**5.3.9 Identification.** The assembled gage should be marked by the nominal size, threads/in., thread series, class, GO, PD, and pitch diameter.

EXAMPLE:
1/4-20 (or .250-20) UNC-2A GO PD.2164

## 5.4 Thread Snap Gages — NOT GO (LO) Segments or Rolls (Table 1 — Gage 2.2 and 2.4)

**5.4.1 Purpose and Use.** The thread snap gage with two NOT GO (LO) segments or two NOT GO (LO) rolls inspects the NOT GO (LO) functional diameter limit, $B_1$, of product external thread. The setting of the NOT GO (LO) segments or rolls represents the NOT GO (LO) functional diameter limit of the product external thread. In applying the thread snap limit gage, the NOT GO (LO) functional diameter is acceptable when gaging elements do not pass over the product thread.

The NOT GO (LO) thread snap gage can also check roundness of the pitch cylinder for 180 deg. ovality by passing the gage over the thread at different diametral locations on the external thread.

The NOT GO (LO) thread snap gage can also check taper of pitch cylinder by passing the gage over the thread at different locations axially on external thread.

**5.4.2 Basic Design.** In order that the NOT GO (LO) thread snap gage may effectively check the NOT GO (LO) functional diameter limit, the flank contact is reduced by truncating the thread on segments and rolls. As the design of the segments or rolls is different with each gage manufacturer, the number of threads engaged in product thread will vary. Usually, the number of pitches engaged is approximately two.

**5.4.3 Thread Form.** The specifications for thread form are summarized in Table 4 and Fig. 21.

**5.4.4 Thread Crests.** The minor diameter of the NOT GO (LO) thread segments and the inner distance between the outside diameters of NOT GO (LO) thread rolls shall be equal to the minimum pitch diameter of the product external thread minus $0.25H$ with the gage tolerance plus when assembled in gage frame. This corresponds to a width of flat at the crest equal to $0.375p$. See Table 4.

**5.4.5 Thread Roots.** The major diameter of the NOT GO (LO) thread segments or root diameter of the NOT GO (LO) rolls shall clear the product thread by using a clearance cut of $0.25p$ width approximately central. Snap gage contacts shall clear the maximum major diameter of the full-form portion of the setting plug for the NOT GO (LO) thread snap gage. Thus, contact of the thread gage can occur on the sides of the thread but not on the crest or root. Also, the effect of angle variation on the fit of the gage with the product thread is minimized.

**5.4.6 Runout.** The pitch and minor cylinders of the threaded NOT GO (LO) segments or the pitch and outside cylinders of the rolls shall not exceed the specified runout as determined by measurement of runout (full-indicator movement). On each gaging member, with respect to the pitch cylinder, runout shall not exceed one-half the X gage minor diameter tolerance.

**5.4.7 Pitch Cylinder.** The pitch cylinder of the threaded NOT GO (LO) segments or rolls shall be straight within the X gage pitch diameter limits specified.

**5.4.8 Lead, Pitch, and Half-Angle Variations.** Lead, pitch, and half-angle variations shall be within the limits specified. See Table 6.

**5.4.9 Identification.** The assembled gage should be marked by the nominal size, threads/in., thread series, class, NOT GO, PD, and pitch diameter.

EXAMPLE:
1/4-20 (or .250-20) UNC-2A NOT GO PD.2127

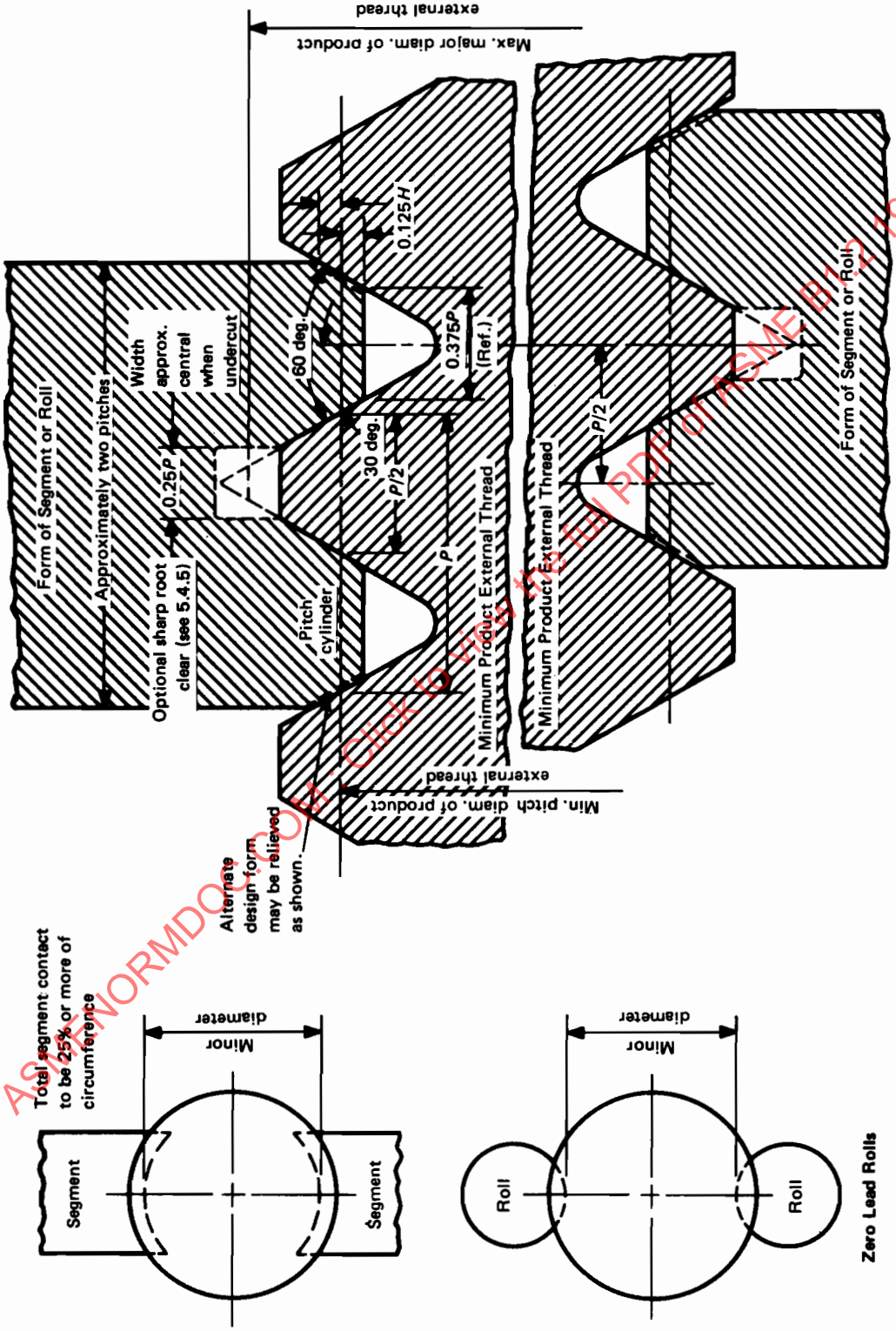



FIG. 21 THREAD SNAP GAGES — NOT GO (LO) FUNCTIONAL DIAMETER LIMIT

### 5.5 Thread Snap Gages — Cone and Vee (Table 1 — Gage 2.5)

**5.5.1 Purpose and Use.** The thread snap gage with cone and vee rolls or segments inspects minimum-material diameter limit, $C_1$. The setting of the cone and vee rolls or segments represents the minimum-material limit pitch diameter of the product external thread.

The cone and vee snap gage can check roundness of pitch diameter for 180 deg. ovality by passing the gage over the thread at different diametral locations on the external thread.

The cone and vee snap gage can check taper of pitch cylinder by passing the gage over the thread at different locations axially on external thread.

**5.5.2 Basic Design.** The segments are usually made having a surface contact at or slightly above the pitch line near the center of the flank. The rolls make point or line contacts approximately at the pitch line, depending upon the angle variations of the thread flanks. See Fig. 22 for details.

**5.5.3 Thread Form.** The specifications for thread form, thread crests, and thread roots are shown in Fig. 22.

**5.5.4 Identification.** The assembled gage should be marked by the nominal size, threads/in., thread series, class, PD, and pitch diameter.

EXAMPLE:
1/4-20 (or .250-20) UNC-2A PD.2127

### 5.6 Thread Snap Gages — Minimum Material: Thread Groove Diameter Type (Table 1 — Gage 2.6)

**5.6.1 Purpose and Use.** The thread snap gage with radius type ribbed rolls inspects minimum-material diameter limit, $D_1$. The setting of the thread groove diameter type snap gage by NOT GO (LO) setting plug gage represents the minimum-material limit pitch diameter of the product external thread.

The thread groove diameter type snap gage can check roundness for 180 deg. ovality by passing the gage over the thread at different diametral locations on the external thread.

The thread groove diameter type snap gage can check taper of pitch cylinder by passing the gage over the thread at different locations axially on external thread.

**5.6.2 Basic Design.** The thread groove diameter type has "best size" thread wire size radius ribbed rolls which contact at the pitch line.

**5.6.3 Thread Form.** The specifications for radius type rolls are shown in Fig. 23.

**5.6.4 Identification.** The assembled gage should be marked by the nominal size, threads/in., thread series, class, PD, and pitch diameter.

EXAMPLE:
1/4-20 (or .250-20) UNC-2A PD.2127

### 5.7 Plain Ring and Snap Gages to Check Major Diameter of Product External Threads (Table 1 — Gages 3.1, 3.2, and 3.4)

**5.7.1 Purpose and Use.** The GO and NOT GO cylindrical ring and plain snap gages inspect the major diameter of the product external thread. The GO gage must completely receive or pass over the major diameter of the product external thread to assure that the major diameter does not exceed the maximum-material limit. The NOT GO cylindrical ring gage or NOT GO plain snap gage must not pass over the major diameter of the product external thread to assure that the major diameter is not less than the minimum-material limit.

**5.7.2 Design of Gage Blanks and Gages.** Plain cylindrical ring blanks and plain progressive adjustable snap gages have been standardized for various size ranges (see ANSI B47.1 and Fig. 24).

**5.7.3 Identification.** Cylindrical rings or plain snap gages should be marked with nominal size, threads/in., thread series, class, GO and/or NOT GO, and major diameter limits.

EXAMPLE:
1/4-20 UNC-2A GO.2489 and/or NOT GO.2408

**5.7.4 Precision Instruments (Table 1 — Gage 14).** Precision instruments such as dial calipers, outside micrometers, vernier calipers, and pocket slide calipers can also be used to measure the major diameter of product external thread.

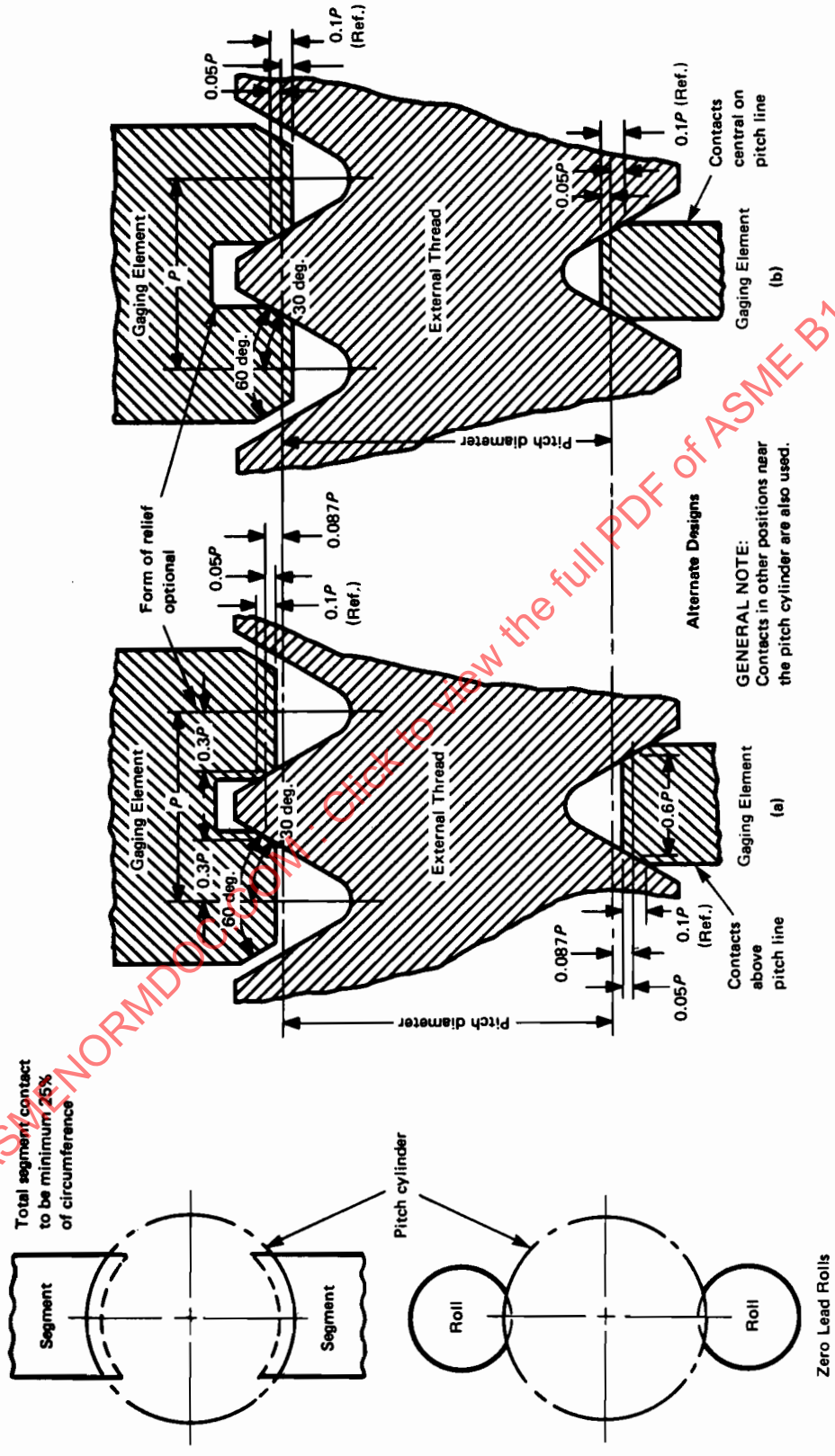



FIG. 22 THREAD SNAP GAGES — MINIMUM-MATERIAL PITCH DIAMETER LIMIT — CONE AND VEE

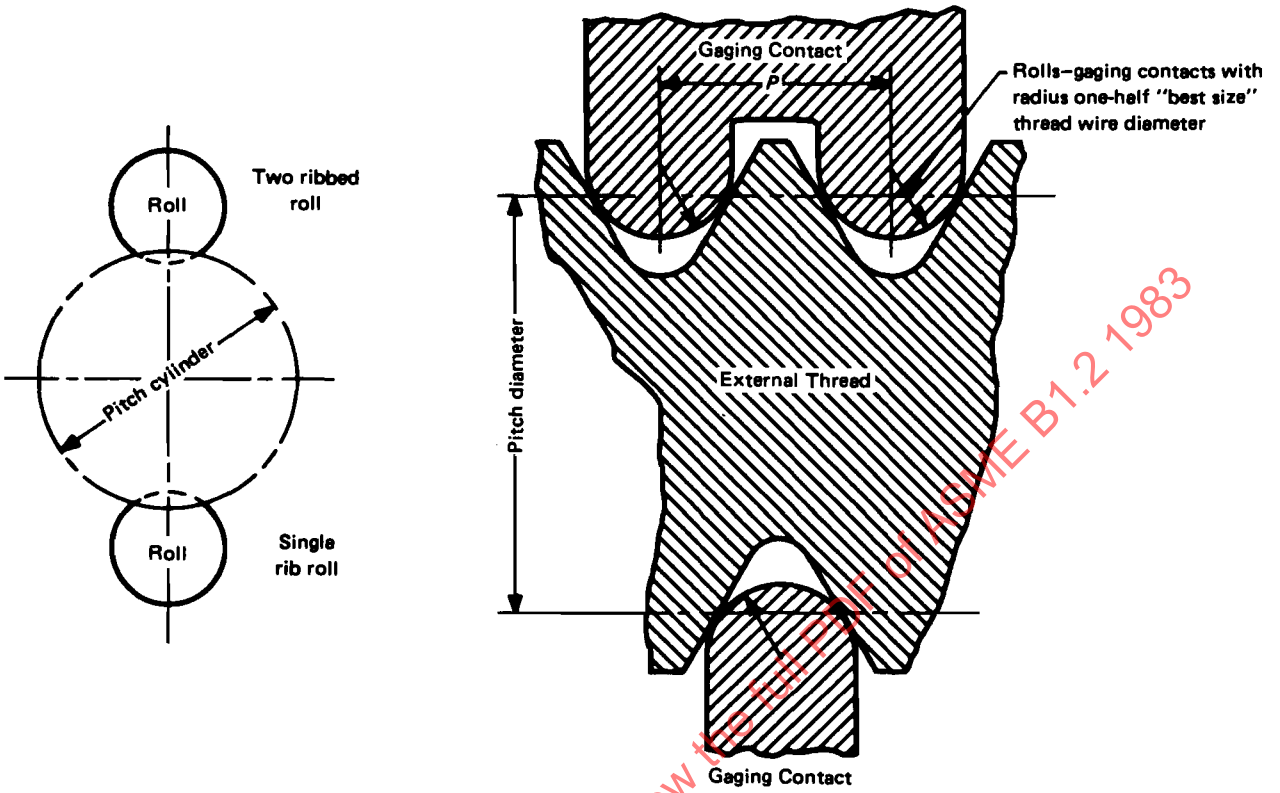



**FIG. 23 THREAD SNAP GAGES — MINIMUM-MATERIAL THREAD GROOVE DIAMETER LIMIT**



### 5.8 Snap Gages for Minor Diameter of Product External Threads (Table 1 — Gages 3.3 and 3.5)

**5.8.1 Purpose and Use.** The GO thread ring gages inspect the depth of thread equivalent to the minor diameter of the product internal thread. If the minor diameter of the external thread requires checking, a minimum-maximum thread snap gage may be used. GO segment or roll snap gage must pass over product thread. NOT GO segment or roll must not pass over product thread.

**5.8.2 Basic Design.** A thread snap gage has segments or rolls with a thread form of 55 deg. maximum. There usually are three threads on the segments or three ribs on the rolls on GO and NOT GO gaging elements. See Fig. 25.

**5.8.3 Identification.** Thread snap gages should be marked with nominal size, threads/in., thread series, class, GO and NOT GO minor diameter limits, and MINOR DIAMETER EXTERNAL.

EXAMPLE:
1/4-20 (or .250-20) UNC-2A GO — NOT GO (Customer's Specifications) MINOR DIAMETER EXTERNAL

### 5.9 Functional Indicating Thread Gages for External Thread (Table 1 — Gages 4.1 and 4.3)

**5.9.1 Purpose and Use.** The GO indicating thread gage (4.1 and 4.3) inspects the maximum-material GO functional limit and size, $A_1$ and $A_2$, and the NOT GO (LO) functional diameter limit and size, $B_1$ and $B_2$, of product external thread. The gage is also used to check even or odd lobe roundness of pitch cylinder. Indicating thread gages must be set to the proper thread-setting plug gages. Readings indicate the position of product external thread within the tolerance range.

**5.9.2 Basic Design.** Indicating gages have two or three contacts at 180 deg. or 120 deg., respectively. Gages with segments or rolls are designed with the length of the GO functional maximum-material gag-

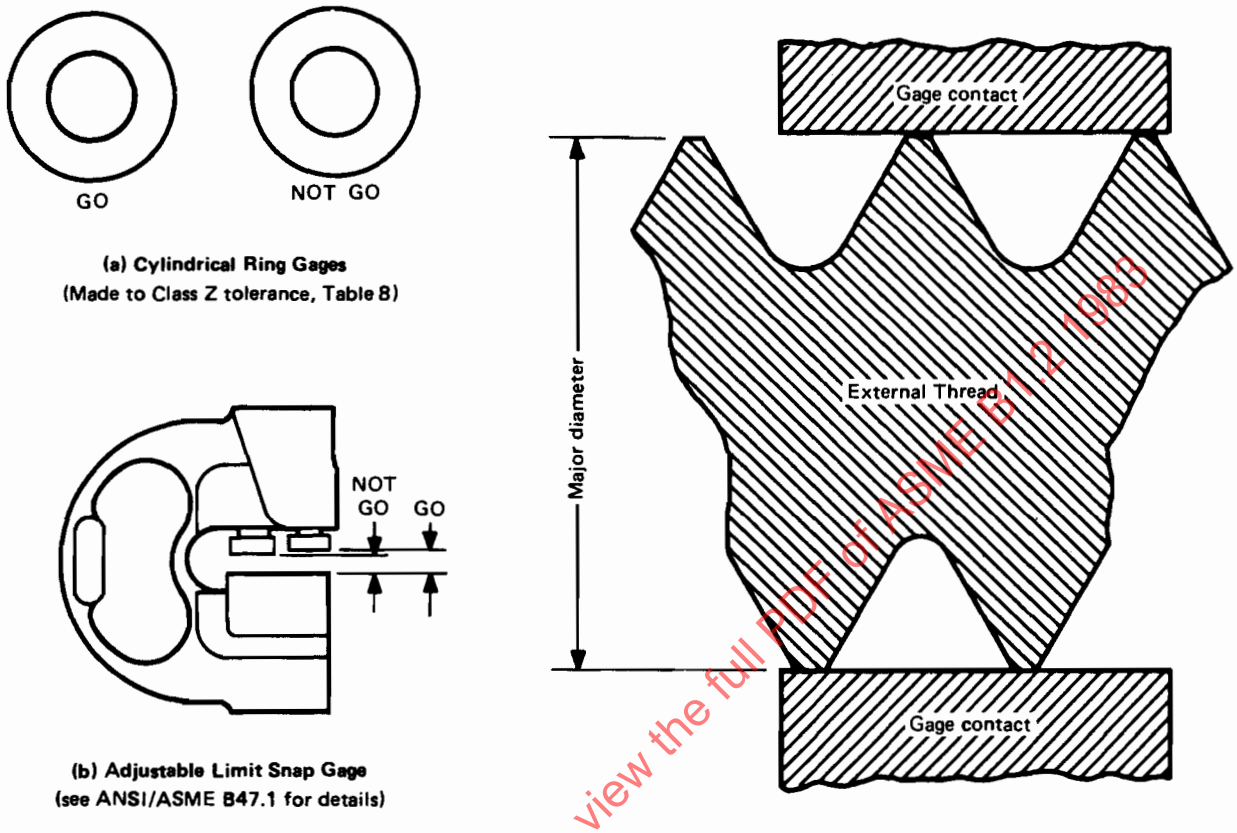



FIG. 24 MAJOR DIAMETER LIMIT



ing elements equal to the length of the standard GO ring gages.

**5.9.3 Thread Form.** The specifications for thread form for GO functional maximum-material segments and rolls are summarized in Table 4 and Fig. 26.

**5.9.4 Thread Crests.** The minor diameter of the GO functional maximum-material thread segments and the diameter of the circle surrounded by the roll cluster of GO functional maximum-material rolls shall be equal to the maximum pitch diameter of the product external thread minus $H/2$ with a minus X gage tolerance when assembled in gage frame. This corresponds to a width of flat of $P/4$ on crests. The thread crests shall be flat in an axial plane and parallel to the axis of segment or roll.

**5.9.5 Thread Roots.** The major diameter of the GO functional maximum-material thread segments and the root of the GO functional maximum-material rolls shall be cleared beyond a $P/8$ flat either by an extension of the flanks of the thread toward a sharp vee or by an undercut no greater than $P/8$ maximum width and approximately central. The root clearance must be such that the major diameter of the full-form section of the thread-setting plug gage is cleared after the assembled gage has been properly set to size.

**5.9.6 Runout.** The pitch and minor cylinders of the threaded segments and the pitch and outside cylinders of the rolls shall not exceed the specified runout as determined by measurements of runout (full-indicator movement). On each gaging member with respect to the pitch cylinder, runout shall not exceed one-half the X gage minor diameter tolerance.

**5.9.7 Pitch Cylinder.** The pitch cylinder of the thread segments and rolls should be straight within the X gage pitch diameter limits specified.

**5.9.8 Lead, Pitch, and Half-Angle Variations.** Lead, pitch, and half-angle variations shall be within the limits specified. See Table 6.

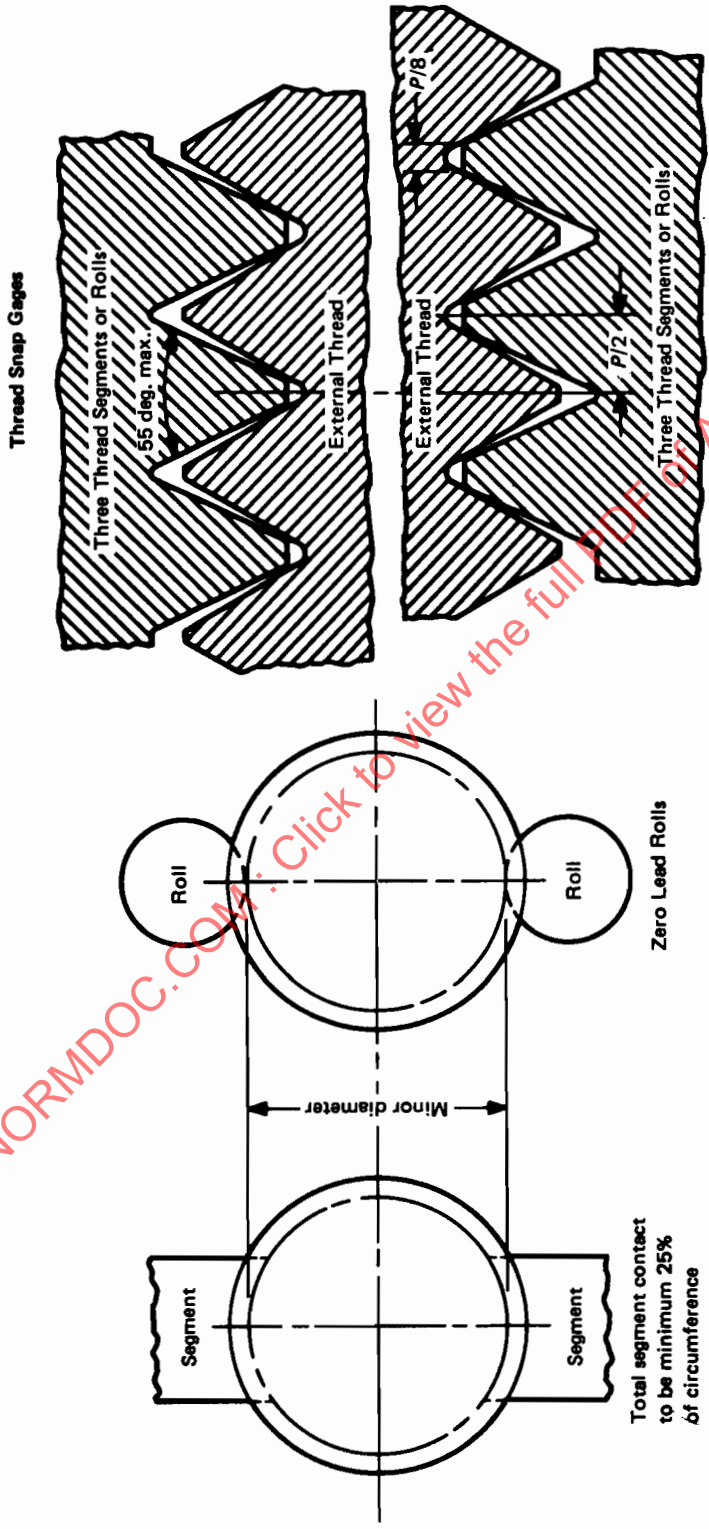



FIG. 25 MINOR DIAMETER LIMIT SNAP TYPE

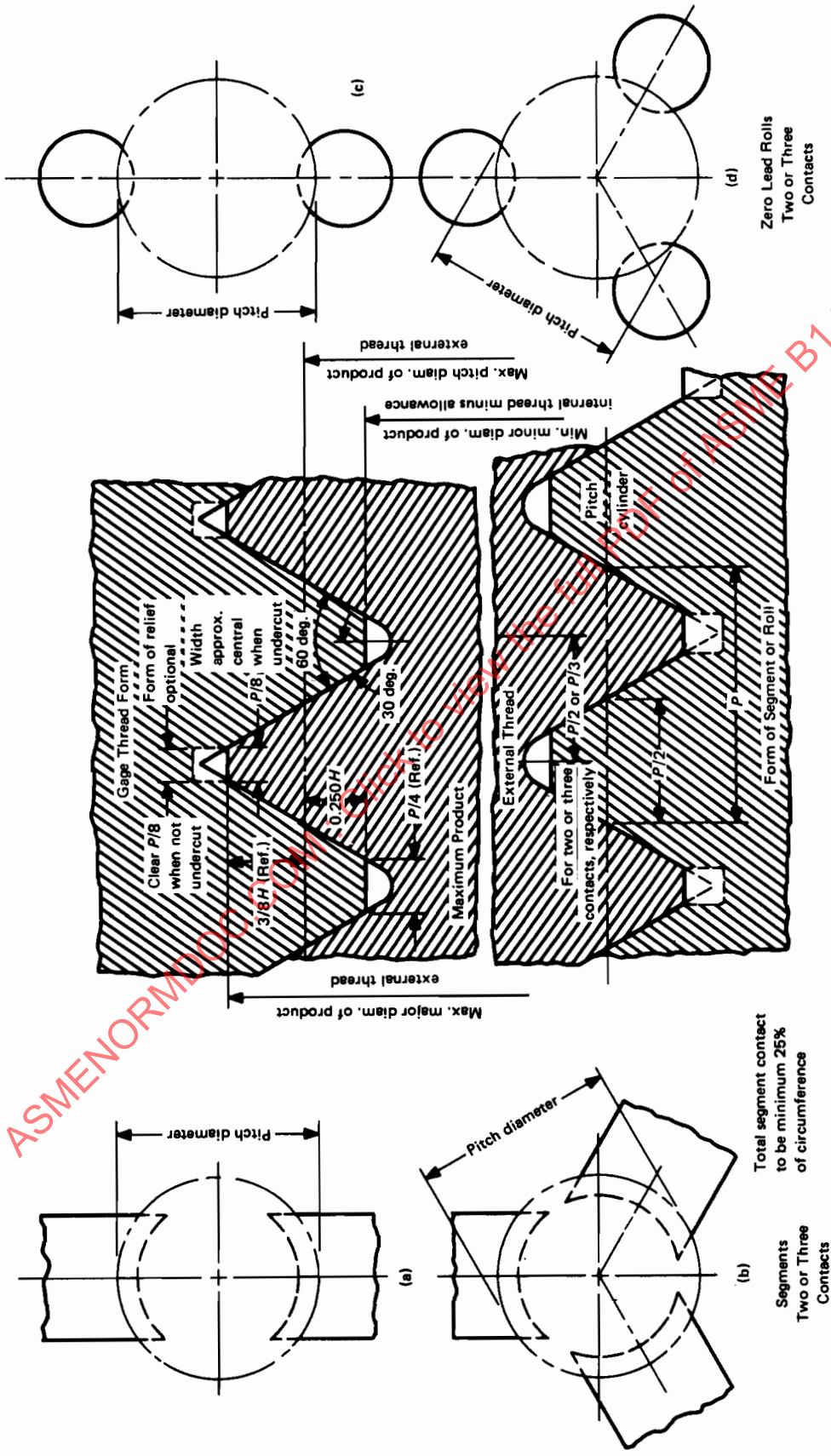



FIG. 26 INDICATING THREAD GAGES — MAXIMUM-MATERIAL GO FUNCTIONAL DIAMETER LIMIT AND SIZE

**5.9.9 Identification.** The segments and rolls shall be identified by the nominal size and threads/in. When indicating gage is assembled with proper contacts, the gage should be tagged with the nominal size, threads/in., thread series, class, PD, and pitch diameter limits.

EXAMPLE:
1/4-20 (or .250-20) UNC-2A PD.2164-.2127

## 5.10 Minimum-Material Indicating Thread Gages for External Thread (Table 1 — Gages 4.5 and 4.6)

**5.10.1 Purpose and Use.** The indicating thread gage with cone and vee rolls or segments and the thread groove diameter type with rolls inspects the minimum-material limit and size ($C_1$ and $C_2$, $D_1$ and $D_2$) of product external thread. Either type of three-roll and three-segment gage can check roundness of pitch cylinder for 120 deg. lobing and taper of pitch cylinder. The two rolls and two segments check even lobing roundness and taper. The indicating gages are set to the proper thread-setting plug gage. Readings indicate the position of product external thread pitch diameter within the tolerance range.

**5.10.2 Basic Design.** The cone and vee indicating thread gage has rolls or segments with contact near the pitch line or contact slightly above the pitch line near the center of the flank. The thread groove diameter type indicating thread gage also has two or three rolls with the radii on the ribs of rolls made to "best size" thread wire size.

**5.10.3 Thread Form.** The specifications on form of cone and vee rolls and segments and thread groove diameter type rolls are shown in Figs. 27 and 28.

**5.10.4 Identification.** The assembled gage should be tagged with the nominal size, threads/in., thread series, class, PD, and pitch diameter.

EXAMPLE:
1/4-20 (or .250-20) UNC-2A PD.2127

## 5.11 Indicating Runout Gage for External Threads (Table 1 — Gage 4.7)

**5.11.1 Purpose and Use.** This indicating gage inspects the runout of the major diameter, $M_1$, to the pitch diameter of the product external thread. Readings indicate the position of product major diameter to the pitch diameter within the tolerance specified.

**5.11.2 Basic Design.** Indicating gages have three contacts, one plain and one threaded, at 120 deg., or two contacts, one plain and one threaded, at 180 deg. The threaded segments or roll contacts are minimum-material pitch diameter type. See Fig. 27. The length of the plain and threaded contacts are designed equal to the length of the standard GO ring gages. See ANSI B47.1 and Table A4. The indicating gage is set to a basic full-form thread-setting plug gage with plain gaging contact on outside diameter of thread-setting plug gage and thread contact on pitch diameter of thread-setting plug gage.

**5.11.3 Thread Form, Thread Crests, and Lead and Half-Angle Variations.** The specifications for thread form, thread crests, and lead and half-angle of thread segments and thread rolls are noted in 5.9. Plain contacts have a line bearing on major diameter of product. See Fig. 29.

**5.11.4 Identification.** The gaging elements, segments, or rolls should be marked with nominal size and threads/in. When indicating gage is assembled with proper gaging contacts, the indicating gage should be tagged with nominal size, threads/in., thread series, class, and RUNOUT.

EXAMPLE:
1/4-20 (or .250-20) UNC-2A RUNOUT

## 5.12 Differential Gaging (Table 1 — Gage 4.8)

**5.12.1** The concept of differential gaging for product external threads makes use of fundamental geometric theorems that relate directly to size, position, and form.

For differential gaging, two methods are used for measuring screw thread size:

(*a*) GO functional size

(*b*) pitch diameter (or thread groove diameter)

Only when a screw thread has perfect position and form [i.e., zero variation in lead (including helical path), flank angle, taper, and roundness] are these two measurements equal. Differential gaging is a variables method of in-process inspection, final conformance inspection, or both, that provides the actual numerical values for both GO functional and pitch diameter sizes. These are the two extreme sizes of any product screw thread. One of the sizes, pitch diamter, is the size of the thread pitch diameter with essentially zero variation in all other thread elements, while the other size, GO functional size, is the size of the thread with the effects of all variations in all other

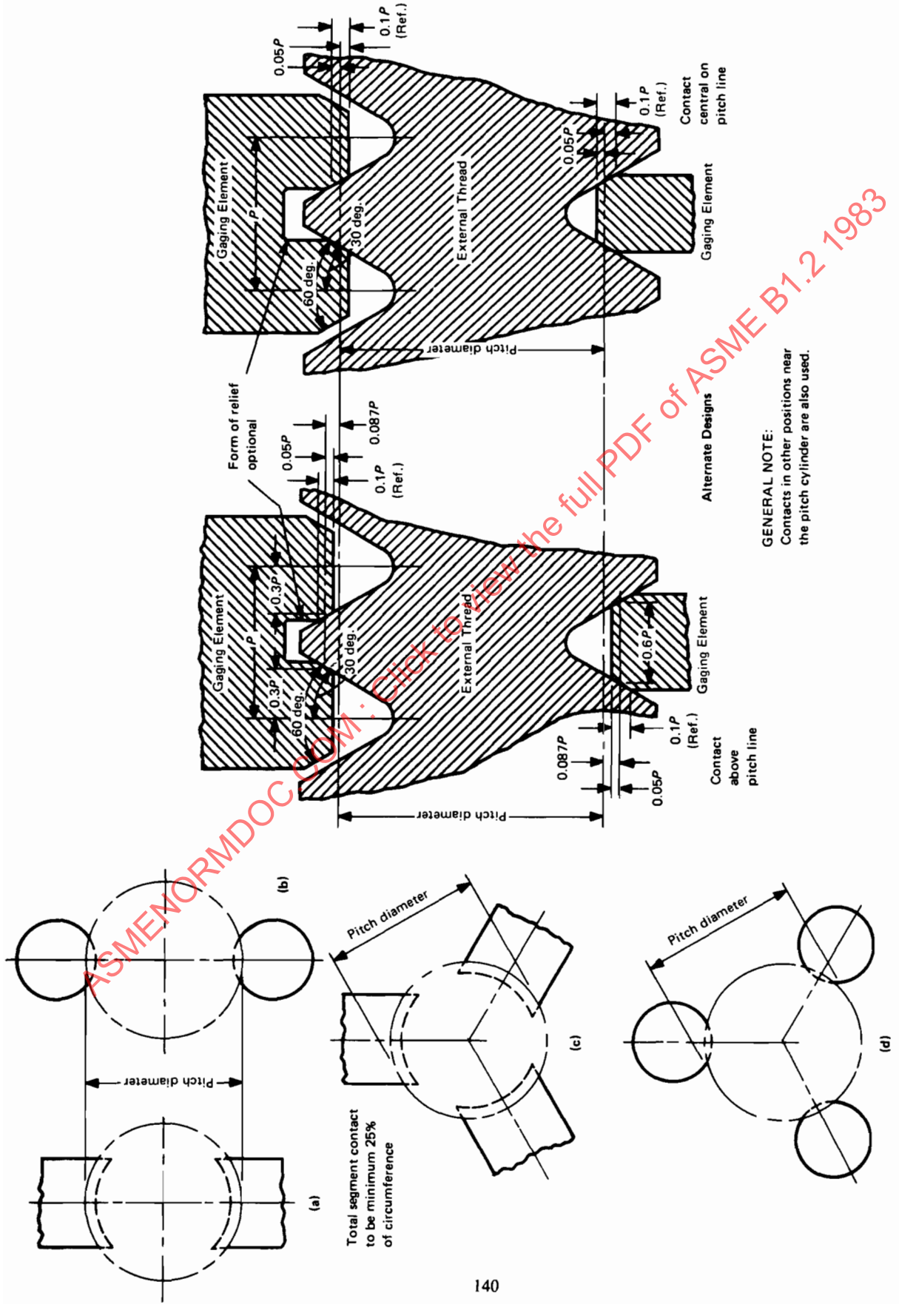



FIG. 27 INDICATING THREAD GAGES — MINIMUM-MATERIAL PITCH DIAMETER LIMIT AND SIZE — CONE AND VEE

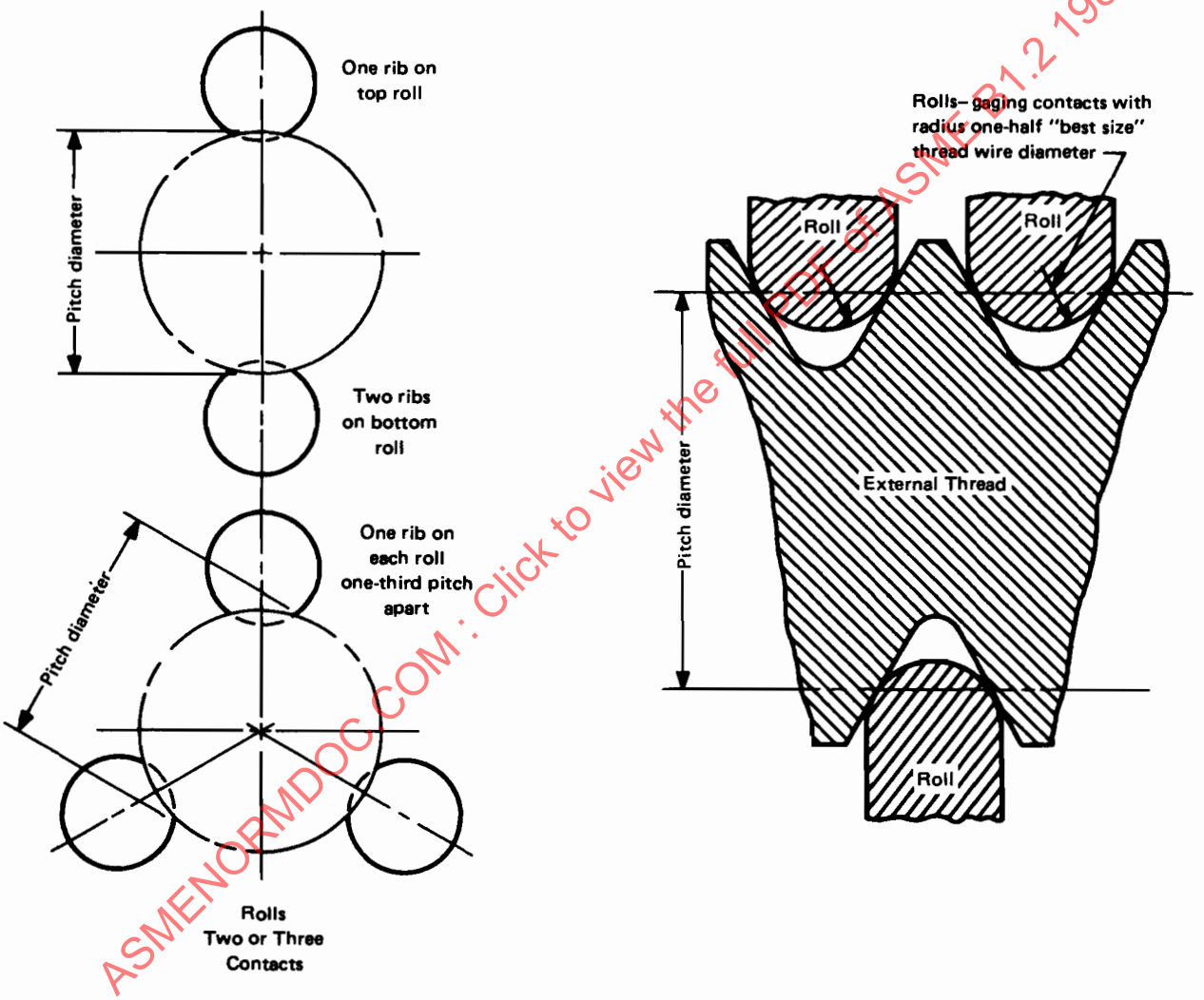





**FIG. 28 INDICATING THREAD GAGES—MINIMUM-MATERIAL THREAD GROOVE DIAMETER LIMIT AND SIZE**

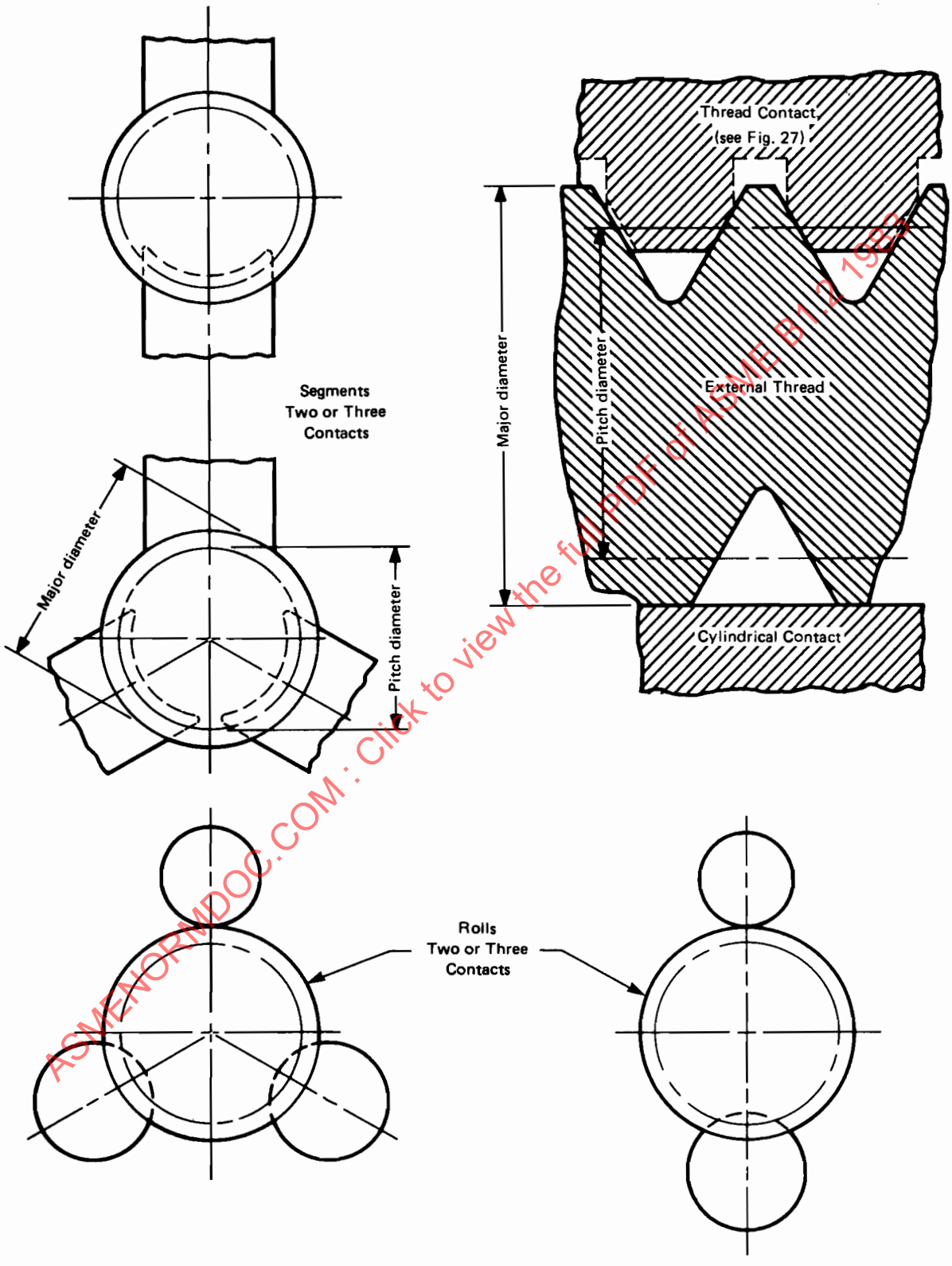





FIG. 29 INDICATING THREAD GAGES — DIAMETER RUNOUT — MAJOR TO PITCH