ASME/ANSI B47.1–1988

AN AMERICAN NATIONAL STANDARD



GAGE BLANKS

REAFFIRMED 1999

FOR CURRENT COMMITTEE PERSONNEL
PLEASE SEE ASME MANUAL AS-11

REAFFIRMED 2004

FOR CURRENT COMMITTEE PERSONNEL
PLEASE E-MAIL CS@asme.org



The American Society of
Mechanical Engineers

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

Not for Resale

AN AMERICAN NATIONAL STANDARD

GAGE BLANKS

ASME/ANSI B47.1–1988

(REVISION OF ANSI B47.1–1981 AND
ANSI/ASME B47.1aM–1982)



The American Society of
Mechanical Engineers

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

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

Not for Resale

Date of Issuance: November 15, 1988

This Standard will be revised when the Society approves the issuance of a new edition. There will be no addenda or written interpretations of the requirements of this Standard issued to this edition.

ASME is the registered trademark of The American Society of Mechanical Engineers.

This code or standard was developed under procedures accredited as meeting the criteria for American National Standards. The Consensus Committee that approved the code or standard was balanced to assure that individuals from competent and concerned interests have had an opportunity to participate. The proposed code or standard was made available for public review and comment which provides an opportunity for additional public input from industry, academia, regulatory agencies, and the public-at-large.

ASME does not "approve," "rate," or "endorse" any item, construction, proprietary device, or activity.

ASME does not take any position with respect to the validity of any patent rights asserted in connection with any items mentioned in this document, and does not undertake to insure anyone utilizing a standard against liability for infringement of any applicable Letters Patent, nor assume any such liability. Users of a code or standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, is entirely their own responsibility.

Participation by federal agency representative(s) or person(s) affiliated with industry is not to be interpreted as government or industry endorsement of this code or standard.

ASME accepts responsibility for only those interpretations issued in accordance with governing ASME procedures and policies which preclude the issuance of interpretations by individual volunteers.

No part of this document may be reproduced in any form,
in an electronic retrieval system or otherwise,
without the prior written permission of the publisher.

Copyright © 1988 by
THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS
All Rights Reserved
Printed in U.S.A.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

Not for Resale

FOREWORD

(This Foreword is not part of ASME/ANSI B47.1-1988.)

The original American Gage Design Committee was formed in 1926 to consolidate, for the benefit of industry at large, the many independent efforts at gage standardization that were in progress at the time.

In March 1930, the standards developed were published as Miscellaneous Publication No. 100 of the National Bureau of Standards, entitled "Plain and Thread Plug and Ring Gage Blanks, Recommended Commercial Standards," and were subsequently promulgated by the Department of Commerce as Commercial Standard CS8-30. They were later approved by the American Standards Association (now the American National Standards Institute) as American Standard B47-1932.

The first revision was designated CS8-33 and also approved as ASA B47-1933. A second revision was made in 1940, and a third revision was published as CS8-51, effective April 15, 1951. A Supplement was issued to CS8-51 in 1955 and preparation of a fourth revision in supplement form was approved in 1961. It was decided, however, to issue a new document instead of adding another supplement and, in 1961, the American Gage Design Committee, operating under the guidance of a Chairman, Secretary, Executive Committee, and seven technical subcommittees, prepared the last revision of this document published by the U.S. Department of Commerce as Commercial Standard CS8-61.

In 1962, the American Standards Association accepted the responsibility for distribution and maintenance of the American Gage Design Standard CS8-61, Gage Blanks. The American Standards Association designated this standard as ASA B47.1-1962.

U.S.A. Standards Committee B47 was organized and staffed at a meeting held in Dearborn, Michigan, in January 1969. This Committee functions under the new designation American National Standards Committee B47. Seven subcommittees worked on the revision of the B47.1-1962 document.

In 1975, the dial indicator standardization was transferred from the jurisdiction of the B47.1 Standards Committee to that of ANSI Standards Committee B89.

An American Standard implies a consensus of those substantially concerned with its scope and provisions. An American Standard is intended as a guide to aid the manufacturer, the consumer, and the general public. The existence of an American Standard does not in any respect preclude anyone, whether he has approved the standard or not, from manufacturing, marketing, purchasing, or using products, process, or procedures not conforming to the standard. American Standards are subject to periodic review and users are cautioned to obtain the latest editions. Producers of goods made in conformity with the American Standard are encouraged to state, on their own, responsibility in advertising and promotion material, or on tags or labels, that the goods are produced in conformity with particular American Standards.

A metric translation of B47.1 was issued in 1978. This separate document, B47.1A, contained primarily a soft conversion of certain dimensions and tables considered to be most important. It established official metric diameter ranges and gaging lengths for plain and thread plug and ring gages and related handles, plus snap gage ranges. Note that changes made in the 1981 revision of B47.1 automatically superseded the metric dimensions since it is intended that blank lengths, size ranges, and other dimensions be essentially the same

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

CONTENTS

Foreword iii
Standards Committee Roster v

1 Scope 1
2 Terminology 1
3 Details of Construction — American Gage Design Standards 3
3.1 Plain Cylindrical Plug Gage Blanks 3
3.2 Handles for Plain Cylindrical and Thread Plug Gage Blanks 21
3.3 Thread Plug Gage Blanks 21
3.4 Plain Ring Gage Blanks 39
3.5 Thread Ring Gage Blanks 41
3.6 Taper Plug and Ring Gages for Checking Taper Lock Handles and Gaging Members 42
3.7 Involute, Serrated, and Straight-Sided Spline Plug and Ring Gage Blanks 42
3.8 Machine Taper Plug and Ring Gage Blanks 43
3.9 Plain Adjustable Snap Gages 43
3.10 Adjustable Length Gages 103
3.11 Thread Snap and Indicating Thread Gages 103
3.12 Master Disks 112
4 Official Monogram for Designating Products Made to American Gage Design Standards 119
5 Application of American Gage Design Standards to Special Types of Gages — Recommended Practice 119
6 Flush Pin Gages 120
7 Double-End Built-Up Snap Gages 120
8 Flat Plug Gages 120
9 Handles, Bilock, for Flat Plug Gages 120

Appendices

A Conversion Table From Inch to Millimeter 131
B Metric Equivalents of Selected Tables 135

Figures

1 Plain Cylindrical Plug Gages, Details of Construction — Ranges Above 0.010 in. to and Including 8.010 in. 4
2 Plain Cylindrical Plug Gages, Details of Construction — Range Above 8.010 in. 21

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

3 Thread Plug Gages — Details of Construction 23
4 Plain Ring Gages — Details of Construction 38
5 Thread Ring Gage Locking Device, Details of Construction — Range 1 in. to 5½ in., Inclusive 41
6 Thread Ring Gages, Details of Construction — Range 0.060 in. to and Including 4.760 in. 44
7 Thread Ring Gages, Details of Construction — Range Above 0.510 in. to and Including 12.260 in. 45
8 Three-Piece Spline Plug Gage Assembly 63
9 Spline Plug Gage Stands 63
10 Adjustable Snap Gages, Details of Construction — Models A, B, C, and MC 87
11 Adjustable Snap Gages, Details of Construction — Model E 88
12 Model MC Snap Gage Details 95
13 Adjustable Length Gage, Double Sided, Models KA and KB, Details of Construction 104
14 Adjustable Length Gage, Progressive, Models LA and LB, Details of Construction 105
15 Adjustable Length Gage, Double Sided, Model KA, Details of Gage Heads 106
16 Adjustable Length Gage, Double Sided, Model KB, Details of Gage Heads 107
17 Adjustable Length Gage, Progressive, Model LA, Details of Gage Heads 108
18 Adjustable Length Gage, Progressive, Model LB, Details of Gage Heads 109
19 Adjustable Length Gages — Details of Spacing Tubes 110
20 Master Disks — Styles 1, 2, and 3 112
21 Insulating Grips for Master Disks — Range Above 1.510 in. to and Including 8.010 in. 118
22 Official Monogram for Designating Products Made to American Gage Design Standards 119
23 Recommended Design of Taper Plug Gage for Special Applications and Method of Dimensioning 121
24 Recommended Design of Taper Ring Gage for Special Applications and Method of Dimensioning 121
25 Recommended Design of Bar Type Flush Pin Gage 123
26 Recommended Design of Small Countersink Type Flush Pin Gage — Range ¾ in. to 1½ in. 124
27 Recommended Design of Large Countersink Type Flush Pin Gage 127
28 Application of Countersink Type 127
29 Recommended Design of Small Built-Up Snap Gage 128
30 Recommended Design of Large Built-Up Snap Gage 128

Tables

1 Handles for Wire Type Plain Cylindrical and Wire Type Thread Plug Gages, Wire Type Design — Range Above 0.010 in. to and Including 1.010 in. 6
2 Wire Type Plug Gage Handles, Details of Body 7
3 Wire Type Plug Gage Handles, Details of Capping Nut 8
4 Single-End Wire Type Plug Gage Handles, Details of Body 9
5 Wire Type Plug Gage Collet Nuts 10

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

6	Wire Type Plug Gage Collet Bushings, Size Ranges	11
7	Handles for Plain Cylindrical and Thread Plug Gages, Taper Lock Design — Range Above 0.059 in. to and Including 0.230 in.	12
8	Handles for Plain Cylindrical and Thread Plug Gages, Taper Lock Design — Range Above 0.230 in. to and Including 1.510 in.	13
9	Handles and Screws for Plain Cylindrical, Thread, and Spline (Involute, Serrated, Straight-Sided) Plug Gages, Trilock Design — Range Above 0.760 in. to and Including 8.010 in.	14
10	Plain Cylindrical Plug Gaging Members, Taper Lock Design — Range Above 0.059 in. to and Including 0.230 in.	16
11	Plain Cylindrical Plug Gage Blanks, Wire Type Design — Range Above 0.010 in. to and Including 1.010 in.	17
12	Plain Cylindrical Plug Gaging Members, Taper Lock Design — Range Above 0.230 in. to and Including 1.510 in.	18
13	Plain Cylindrical Plug Gaging Members, Trilock Design — Range Above 0.760 in. to and Including 2.510 in.	19
14	Plain Cylindrical Plug Gaging Members, Trilock Design — Range Above 2.510 in. to and Including 8.010 in.	20
15	Plain Cylindrical Plug Gages, Annular Design — Range Above 8.010 in. to and Including 12.010 in.	22
16	Thread Plug Gaging Members, Taper Lock Design — Range From No. 0 to No. 12, Inclusive	25
17	Thread Plug Gaging Members, Wire Type Design — Range Above 0.030 in. to and Including 1.010 in.	26
18	Thread Plug Gaging Members, Taper Lock Design — Range From 1/4 in. to and Including 1 1/2 in.	27
19	Thread Plug Gaging Members, Trilock Design — Range Above 3/4 in. to and Including 2 1/2 in.	28
20	Thread Plug Gaging Members, Trilock Design — Range Above 2 1/2 in. to and Including 8 in.	29
21	Thread Plug Gaging Members, Annular Design — Range Above 8.010 in.	30
22	Fine-Pitch Instrument Thread Plug Gaging Members, Taper Lock Design — Range No. 0 to 1 1/2 in., Inclusive	31
23	Fine-Pitch Instrument Thread Plug Gaging Members, Trilock Design — Range Above 1 1/2 in. to and Including 2 1/2 in.	32
24	Thread-Setting Plug Gaging Members, Truncated Type — Range No. 0 to 1 1/2 in., Inclusive	33
25	Thread-Setting Plug Gaging Members, Truncated Type — Range Above 1 1/2 in. to and Including 2 1/2 in.	34
26	Thread-Setting Plug Gaging Members, Truncated Type — Range Above 2 1/2 in. to and Including 6 1/2 in.	35
27	Taper Pipe-Thread Plug Gaging Members (L-1) — Range 1/16 in. to and Including 6 in.	36
28	Taper Pipe-Thread Plug Gaging Members for L-3 and Minor Diameter Check (6 Step)	37
29	Plain Ring Gages — Range Above 0.010 in. to and Including 1.510 in.	39
30	Plain Ring Gages — Range Above 1.510 in. to and Including 12.260 in.	40
31	Holders for Thread Ring Gages	46
32	Thread Ring Gages — Range No. 0 to and Including 4 3/4 in.; Also Fine-Pitch Instrument Thread Ring Gages, No. 0 to and Including No. 12	48

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

33 Thread Ring Gages — Range Above 4.760 in. to and Including 8.510 in. 50
34 Thread Ring Gages — Range Above 8.510 in. to and Including 12.260 in. 51
35 Fine-Pitch Instrument Thread Ring Gages — Range Above 0.240 in. to and Including 2.510 in. 52
36 Thread Ring Gage Adjusting Screws 54
37 Thread Ring Gage Sleeves 55
38 Thread Ring Gage Locking Screws 56
39 Solid, Nonadjustable Thread-Setting and Master (Reference) Ring Gage Blanks — Range 0.059 in. to 6.010 in. 58
40 Taper Pipe-Thread Ring Gages L_1 and L_2 — Range $^1/_{16}$ in. to 8 in., Inclusive 60
40A Taper Pipe-Thread Ring Gages — Step Limit Design 61
41 Plug and Ring Gages for Checking Handles and Gaging Member Taper Shanks of Taper Lock Plug Gages — Range Above 0.059 in. to and Including 1.510 in. 62
42 Handles for Spline Plug Gages — Range Above 1.5 in. to and Including 8.0 in. 64
43 Washers for Spline Plug Gaging Members (Cup Type, Small) — Range Above 1.5 in. to and Including 5.0 in. 64
44 Washers for Spline Plug Gaging Members (Cup Type, Large) — Range Above 5.0 in. to and Including 8.0 in. 64
45 Involute, Serrated, and Straight-Sided Spline Composite and Sector Plug Gages — Range to and Including 2.0 in. 65
46 Involute, Serrated, and Straight-Sided Spline Composite and Sector Plug Gaging Members — Range Above 1.5 in. to and Including 8.0 in. 66
47 Involute, Serrated, and Straight-Sided Spline Composite and Sector Plug Gaging Members, Pilot Type — Range Above 1.5 in. to and Including 8.0 in. 67
48 Involute, Serrated, and Straight-Sided Spline Tapered-Tooth Composite and Sector Plug Gages, Master and Working — Range to and Including 8.0 in. 68
49 Involute and Serrated Spline Composite and Sector Ring Gages — Range to and Including 8.0 in. 69
50 Involute and Serrated Spline Composite and Sector Ring Gages, Pilot Type — Range Above 1.5 in. to and Including 8.0 in. 70
51 Straight-Sided Spline Composite Ring Gages, Prong Type, for Space Widths 0.070 in. or Less — Range to and Including 1.0 in. 71
52 Straight-Sided Spline Composite Ring Gages, Prong Type, for Space Widths Greater Than 0.070 in. — Range to and Including 6.0 in. 72
53 Straight-Sided Spline Composite Alignment Ring Gages, Double-End Prong Type — Range Above 1.0 in. to and Including 6.0 in. 73
54 Built-Up Double-End Snap Gages for Tooth Thickness of Straight-Sided External Splines 74
55 Machine Taper Plug Gages, With Tang 75
56 Machine Taper Ring Gages, With Tang 77
57 Machine Taper Plug Gages, Without Tang 79
58 Machine Taper Ring Gages, Without Tang 83
59 Sizes of Combination Drills and Countersinks for Machine Taper Plug Gages 86
60 Plain Adjustable Snap Gages, Models A and B — Details of Frame 90
61 Plain Adjustable Snap Gages, Model C — Details of Frame 92

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

62 Plain Adjustable Snap Gages, Model MC — Details of Frame 94
63 Adjustable Snap Gages, Extended Anvil, Model E — Details of Frame 96
64 Models A, B, C, and E Snap Gage, and Models K and L Adjustable Length Gage Adjusting Screws 98
65 Models A, B, C, and E Snap Gage, and Models K and L Adjustable Length Gage Locking Screws 98
66 Models A, B, C, and E Snap Gage, and Models K and L Adjustable Length Gage Locking Bushing and Nuts 98
67 Model A Snap Gage Gaging Pins 99
68 Models B, C, and E Snap Gage, and Models K and L Adjustable Length Gage Gaging Buttons 99
69 Model C Snap Gage and Model L Adjustable Length Gage Anvils 100
70 Model C Snap Gage and Model L Adjustable Length Gage Anvil Screws 101
71 Model E Snap Gage Anvil and Anvil Screws 102
72 Models A, B, C, E, and MC Snap Gage, and Models KA, KB, LA, and LB Adjustable Length Gage Marking Disks 103
73 Recommended Applicability of Adjustable Length Gage as Related to Product Tolerance 103
74 Adjustable Length Gages, Parts List 111
75 Master Disks — Range Above 0.105 in. to and Including 0.365 in. 113
76 Master Disks — Range Above 0.365 in. to and Including 1.510 in. 114
77 Master Disks — Range Above 1.510 in. to and Including 2.510 in. 115
78 Master Disks — Range Above 2.510 in. to and Including 8.010 in. 116
79 Insulating Grips for Master Disks — Range Above 0.105 in. to and Including 1.510 in. 117
80 Separator Plates for Master Disks — Range Above 1.510 in. to and Including 8.010 in. 117
81 Tie Rods for Master Disks — Range Above 1.510 in. to and Including 8.010 in. 119
82 Recommended Design of Barrel Type Flush Pin Gage 122
83 Recommended Design of Flat Plug Gages — Range Above 1.510 in. to and Including 8.010 in. 125
84 Flat Plug Gage — Additional Specifications 126
85 Handle for Flat Plug Gage 129

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

Not for Resale

GAGE BLANKS

NOTES:
(1) While compliance to the revised specifications in this document is urged as soon as possible, the use of blanks and designs in ANSI B47.1-1981 is permissible for a period of 5 years from approval date of this document.
(2) Types of steel or other material for gage blanks and components are not standardized in this document. The type of material and hardness should be agreed upon by producer and user of the gages.
(3) Certain tables in this document show both nominal thread ranges as well as decimal ranges. In such cases, the decimal range establishes the official dividing line from one blank or handle size to the next.

1 SCOPE

This Standard covers standard designs for the following:

(*a*) plain and thread plug gage blanks to 12.010 in. maximum gaging diameter

(*b*) plain and thread ring gage blanks to 12.260 in. maximum gaging diameter

(*c*) involute and serrated spline plug and ring gage blanks to 8.000 in. major diameter

(*d*) straight-sided spline plug and ring gage blanks to major diameters of 8.000 in. for plugs and 6.000 in. for rings

(*e*) machine taper plug and ring gage blanks to 5.000 in. gaging diameter

(*f*) adjustable snap gages to 12 in.

(*g*) adjustable length gages to any desired length

(*h*) master disks up to 8.010 in. in diameter

Recommended general designs covering taper plug and ring gages for special applications, flush-pin gages, and flat plug gages are also included.

This Standard is intended to deal only with the dimensions of blanks, frames, and fittings. However, it is expected that gages made from these blanks shall be finished in accordance with accepted good gagemaking practice with respect to accuracy and workmanship.

2 TERMINOLOGY

The following glossary is intended to clarify the meaning of certain technical terms employed in this Standard. The definitions are not intended to be general; rather, they are specific as to their application to the American Gage Design Standards.

adjusting screw — a threaded member employed for adjusting, to any predetermined setting, the gaging pins or gaging buttons of an adjustable snap, plug, or length gage

adjusting slots — radial slots provided in thread ring gages in order to facilitate expansion and contraction of gage size by means of the adjusting device. An adjusting slot always terminates in an *adjusting slot terminal hole.*

American Gage Design Standard — designates gages made to the design specifications promulgated by the American Gage Design Committee

anvil — designates the gaging member of a gage when constructed as a fixed nonadjustable block, or as the integral jaw of the gage

disk

disk, marking — a plate that can be attached to a gage frame to provide, when suitably marked, a means of identification for the gage

disk, master — a cylinder provided with insulating grips, used for setting comparators, snap gages, etc.

drift hole (also known as *drift slot*) — a small hole or slot provided in the side of a taper lock gage handle near the GO end, through which a pin or drift may be inserted for the purpose of ejecting the gaging member from the handle

flange — external portion of a large ring gage that is reduced in sections for the purpose of lightening the gage

frame of a snap gage — the body portion of the gage as distinct from the gaging pins, gaging buttons, anvils, and adjusting or locking mechanism

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

gage

adjustable length — a complete external caliper gage employed for the size control of relatively large external dimensions, comprising length gage spacing tubes and length gage heads

annular plug — a shell type plug gage in which the gaging member is in the form of a ring, the external surface of which is the gaging section, the central portion of the web being machined away for the purpose of reducing weight, ball handles being provided for convenience in handling. This construction is employed for plain and thread plug gages in the ranges above 8.010 in.

composite spline — gage having a full complement of teeth

flat plug — a plug gage made in the form of a central axial segment of a plain cylindrical plug gage

flush pin — a gage for checking the distance between two surfaces, comprising a body having a through hole, and a pin in the hole that projects from a face of the body a distance equal to the dimension to be gaged when the opposite or indicating end of the pin is flush with the opposite face of the body. The indicating end of the pin or the adjacent face of the body has a step of a depth equal to the tolerance of the dimension gaged.

involute spline — a gage having on its gaging circumference a number of involute shaped teeth that correspond in contour, number, diameter, and spacing with the product specifications

plain adjustable snap — a complete external caliper gage employed for the size control of plain external dimensions, comprising an open frame in both jaws of which gaging members are provided, one or more pairs of which can be set and locked to any predetermined size within the range of the gage

plain cylindrical plug — a complete internal gage of a single- or double-ended type for the size control of holes and other applications. It consists of a handle and a gaging member or members, with suitable locking means.

plain ring — an external gage of circular form employed for the size control of external diameters. In the smaller sizes it may consist of a gage body into which is pressed a *bushing*, the latter being accurately finished to size for gaging purposes.

plain solid snap — a complete external caliper gage employed for the size control of plain external dimensions, comprising an open frame and jaws, the latter carrying gaging members in the form of fixed, parallel, nonadjustable anvils

progressive cylindrical plug — a complete internal gage consisting of a handle and a gaging member in which the GO and NOT GO gaging sections are combined in a single unit secured to one end of the handle

trilock plug — a plug gage in which three wedge-shaped locking prongs on the handle are engaged with corresponding *locking grooves* in the gaging member by means of a single through screw, thus providing a self-centering support with a positive lock. This design is standard for plug gages in the ranges above 0.760 in. to and including 8.010 in., with the exception of pipe-thread plug gages, for which it is standard in the ranges above 2 in. nominal pipe size, to and including 6 in. nominal pipe size.

serrated spline — a gage having on its gaging circumference a number of straight-sided triangular-shaped teeth that correspond in angle contour, number, diameter, and spacing with the product specifications

spline plug — a plug gage having a series of projecting keys, equally spaced about the periphery, that fit into the spline-ways to be gaged

spline ring — a ring gage having keys that are complementary to the splined shaft to be gaged

straight-sided spline — a gage having on its gaging circumference a number of keys or keyways with parallel sides that correspond in width, number, spacing, and diameter with the product specifications

taper lock plug — a plug gage in which the gaging member has a taper shank that is forced into a taper hole in the handle. This design is standard for plug gages in the range above 0.059 in. to and including 1.510 in. and for pipe-thread plug gages to and including 2 in. nominal pipe size. (The *wire type plug gage* is standard in the range above 0.010 in. to and including 1.010 in. See definition of wire type plug gage.)

taper plug — an internal gage in the form of a frustum of a cone having diameter, taper, and length suitable for the internal gaging of taper dimensions in accordance with the specifications of the product. An extended portion may be provided for checking a tang slot when specified.

taper ring — an external gage, the internal contour of which conforms to the frustum of a cone having diameter, taper, and length suitable for the gaging of external taper dimensions in accordance with the specifications of the product. An extended portion may be provided for checking a driving tang when specified.

thread plug — a complete internal thread gage of either single- or double-ended type, comprising a handle

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

and a threaded gaging member or members, with suitable locking means

thread ring — an external thread gage employed for the size control of threaded work, with means of adjustment provided

wire type plug — a plug gage comprising a gaging member of straight cylindrical section throughout its length held in a collet type handle. This design is standard in the range above 0.010 in. to and including 1.010 in.

gaging button — an adjustable gaging member of an adjustable snap or length gage, consisting of a shank and a flanged portion, the latter constituting the gaging section

gaging member — integral unit of a gage that is accurately finished to size and is employed for size control of the work. In taper lock plug gages, the gaging member consists of a shank and a gaging section.

gaging section — portion of the gage that comes into physical contact with the work. In the plug range above 1.510 in. to and including 12.010 in., the gaging section is identical with the gaging member.

handle — portion of gage that is employed as supporting means for the gaging member or members. In the American Gage Design Standards, six types of handles are employed: taper lock design handle, trilock design handle, wire type gage handle, ball handle, spline design, and flat plug design.

hub — midsection of a flanged ring gage. It determines the length of the gaging section.

length gage heads — the end portions of a length gage, carrying and including the gaging members, that can be set and locked to any predetermined size within the range of adjustment

length gage spacing tubes — constitute the central portion of a length gage and carry at their extremities the two length gage heads

lightening holes — drilled holes provided in the heavier sizes of gaging members for the purpose of reducing the weight of the gage

locking device

locking device, snap gage — portion of an adjustable snap, plug, or length gage that is employed for locking the adjustable gaging members in fixed position. It comprises a locking screw, a locking bushing, and a locking nut.

locking device, thread ring gage — provides a means of expanding, contracting, and locking the thread ring gage primarily during the manufacturing process. It comprises an adjusting screw, a locking screw, and a sleeve.

locking slot —slot that passes entirely through the wall of a thread ring gage. In conjunction with the thread ring gage locking device, it permits expansion and contraction of the gage blank during manufacturing and reconditioning.

shank — portion of the gaging member that is employed for fixing the gaging member in the handle or frame

snap gage pin — a straight, unflanged adjustable gaging member of an adjustable snap gage

taper plug gage tang — portion of a taper plug gage that conforms to the width and centrality of the driving slot of the tool spindle

taper ring tang check — portion of a taper ring gage that conforms to the shape of and checks the dimensions of the driving tang on the tool shank

3 DETAILS OF CONSTRUCTION — AMERICAN GAGE DESIGN STANDARDS

3.1 Plain Cylindrical Plug Gage Blanks

3.1.1 Four separate designs have been adopted for plain cylindrical plug gages, as follows:

(*a*) the *taper lock* design for the range from 0.059 in. to and including 1.510 in.;

(*b*) the *wire type* design from 0.010 in. to and including 1.010 in.;

(*c*) the *trilock* design with gaging members from above 0.760 in. to and including 8.010 in.;

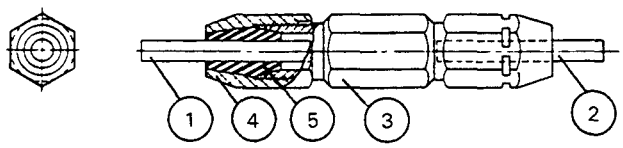
(*d*) the *annular* design for the range from above 8.010 in.

For sizes above 0.059 in. to and including 8.010 in., both straight and progressive gaging members are provided.

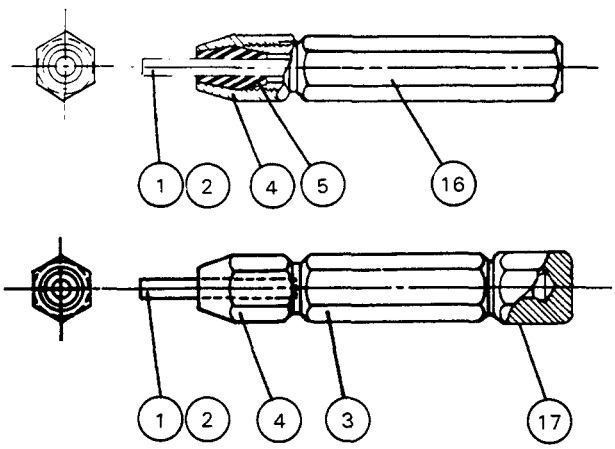
3.1.2 Wire Type Design, Above 0.010 in. to and Including 1.010 in.

(*a*) Considerations of convenience and economy have indicated the desirability of having a wire type design of plain plug gage in small diameters. This gage is comprised of a wire type member or members held firmly in a collet type handle of suitable proportions. The gaging member may be extended from the handle a specific amount, as desired, and reversed to increase the useful life of the gage. These gages are available in both single- and double-end types.

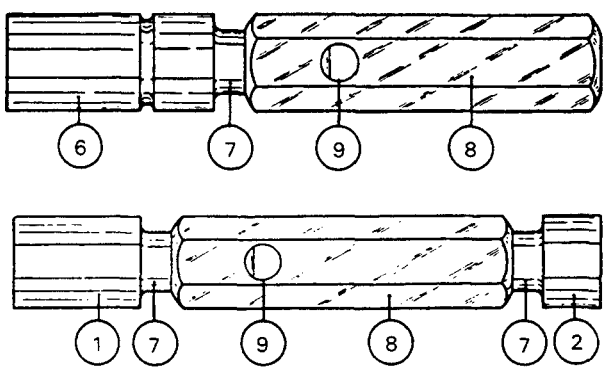
Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale



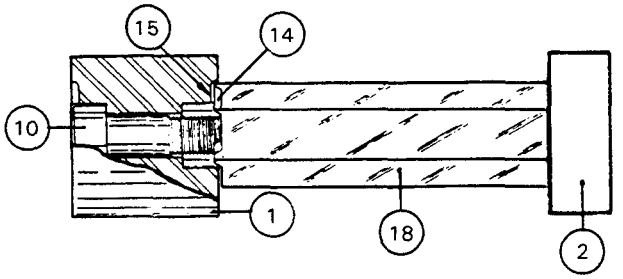
Range — above 0.010 in. to and including 1.010 in.

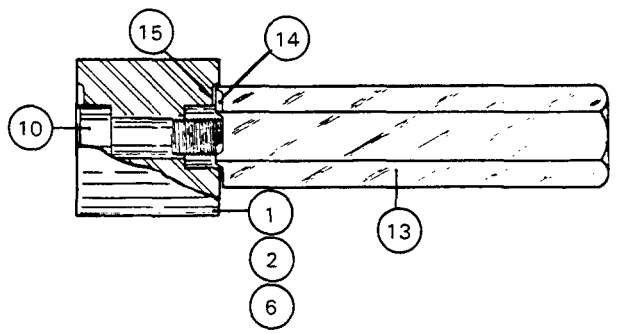


Range — above 0.010 in. to and including 1.010 in.



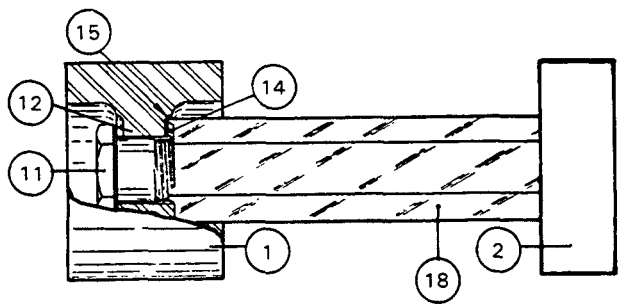
Range — above 0.059 in. to and including 1.510 in.





Range — above 0.760 in. to and including 2.510 in.

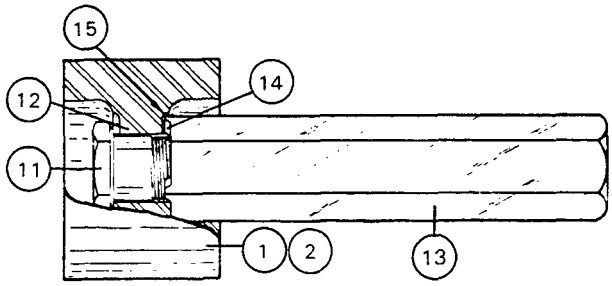
GENERAL NOTE: For range above 0.760 in. to and including 1.510 in., the locking screw should be tightened only enough to hold member to handle securely, thereby avoiding excessive distortion of gaging member.



Range — above 2.510 in. to and including 8.010 in.

FIG. 1 PLAIN CYLINDRICAL PLUG GAGES, DETAILS OF CONSTRUCTION — RANGES ABOVE 0.010 IN. TO AND INCLUDING 8.010 IN.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale



Range — above 2.510 in. to and including 8.010 in.

(1) GO gaging member
(2) NOT GO gaging member
(3) Double-end wire type handle
(4) Collet nut
(5) Bushing
(6) Progressive gaging member
(7) Shank
(8) Taper lock handle
(9) Drift hole or slot
(10) Screw
(11) Screw
(12) Web
(13) Single-end trilock handle
(14) Locking prong
(15) Locking groove
(16) Single-end wire type handle
(17) Capping nut
(18) Double-end trilock handle

FIG. 1 PLAIN CYLINDRICAL PLUG GAGES, DETAILS OF CONSTRUCTION — RANGES ABOVE 0.010 IN. TO AND INCLUDING 8.010 IN. (CONT'D)

(*b*) Dimensions and tolerances have been established for handles and collets to accommodate any diameter of plug through the range above 0.010 in. to and including 1.010 in. Lengths for a given range of diameters have been established for the wire type plugs. Details of construction will be apparent from Fig. 1 (pp. 4–5) and Tables 1 through 6 (pp. 6–11).

3.1.3 Taper Lock Design, Above 0.059 in. to and Including 1.510 in.

(*a*) This type of gage is simple and is economical to produce and maintain. The gaging member has a taper shank that is forced into a taper hole in the handle. When properly assembled, the taper lock gage possesses the rigidity of a solid gage and is entirely free of shake or "wink." Drift slots or drift holes are provided near the GO end of the handle, permitting gaging members to be removed when replacement is necessary. In the case of double-end gages, the other end is removed by running a rod through the hollow handle.

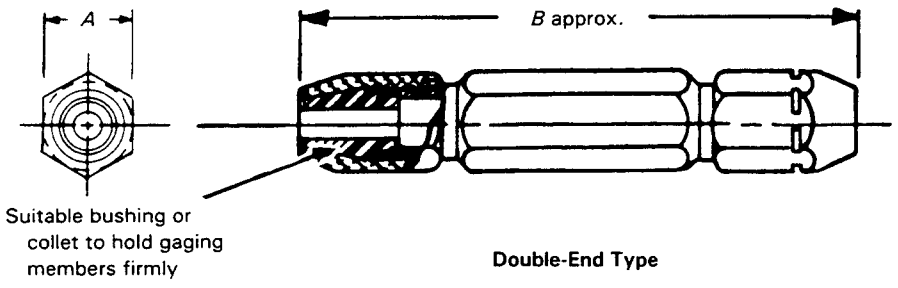
(*b*) Complete dimensional tolerances have been established for the mating parts of gaging members and handles, insuring absolute interchangeability of gaging members and handles wherever manufactured. General details of construction will be apparent from Fig. 1 (pp. 4–5). See also Tables 7, 8, 10, and 12 (pp. 12, 13, 16, and 18).

3.1.4 Trilock Design, Above 0.760 in. to and Including 8.010 in.

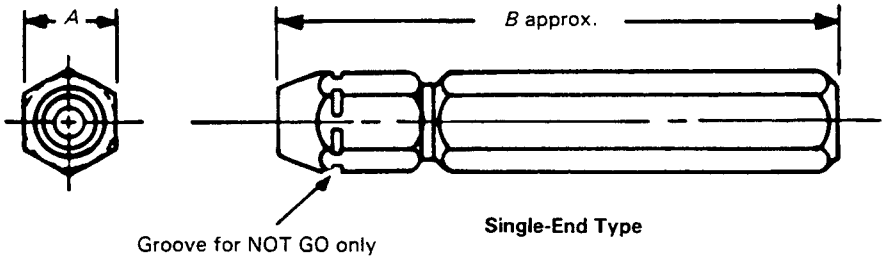
(*a*) Considerations of rigidity of construction and long life have dictated the trilock design for the size range above 0.760 in. to and including 8.010 in. With this construction there is no chance for shake or wink to interfere with the sensitive feel so necessary in gages of this type. Three wedge-shaped locking prongs on the handle are engaged with corresponding grooves in the gaging member by a single through screw, thus providing a self-centering support with a positive lock. This results in a degree of rigidity equivalent to that of a solid gage. The useful life of the plug, furthermore, is materially increased, for when one end is worn the plug can be reversed; it is then, for most purposes, as good as new.

(*b*) The construction is protected by carefully worked out dimensional limits, and interchangeability is insured between gaging members and handles, wherever manufactured. Details of construction will be apparent from Fig. 1 (pp. 4–5). See also Tables 9, 13, and 14 (pp. 14, 19, and 20).

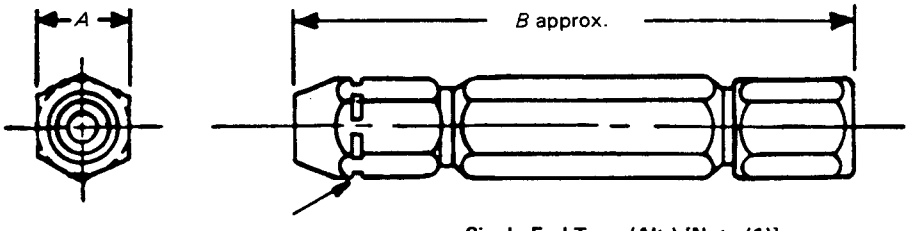
Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale



Double-End Type



Single-End Type



Single-End Type (Alt.) [Note (1)]

TABLE 1 HANDLES FOR WIRE TYPE PLAIN CYLINDRICAL AND WIRE TYPE THREAD PLUG GAGES, WIRE TYPE DESIGN — RANGE ABOVE 0.010 IN. TO AND INCLUDING 1.010 IN.

Handle Size No.			Size Range, Nominal			
Double End	Single End	Single End (Alt.)	Above	To and Including	*A*	*B* Min.
1W	1W-S	1W-A	0.010	0.075	1/4	1 29/32
2W	2W-S	2W-A	.075	.180	3/8	2 15/32
3W	3W-S	3W-A	.180	.281	9/16	3 1/8
4W	4W-S	4W-A	.281	.406	11/16	3 19/32
5W	5W-S	5W-A	.406	.510	13/16	4 3/16
6W	6W-S	6W-A	.510	.635	15/16	4 17/32
7W	7W-S	7W-A	.635	.760	1 1/16	4 21/32
8W	8W-S	8W-A	.760	1.010	1 1/4	5 1/4

GENERAL NOTES:
(a) All dimensions are in inches.
(b) If collet nuts are colored, they shall be green for GO and red for NOT GO.

NOTE:
(1) The alternate single-end type is a double-end type converted to suit single-end applications.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS Not for Resale

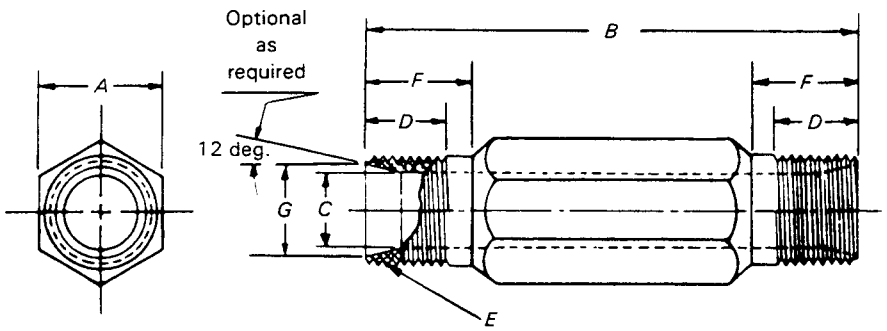


TABLE 2 WIRE TYPE PLUG GAGE HANDLES, DETAILS OF BODY

Handle Size No.	Size Range		A	B	C	D	E	F	G
	Above	To and Including		Min.					
1W	0.010	0.075	1/4	1 5/16	3/32	9/32	.216-32 UNEF-2A	21/64	0.151
2W	.075	.180	3/8	1 27/32	3/16	5/16	.3125-32 UNEF-2A	7/16	.235
3W	.180	.281	9/10	2 1/8	19/64	13/32	.500-28 UNEF-2A	1/2	.348
4W	.281	.406	11/16	2 19/32	27/64	7/16	.625-28 UN-2A	5/8	.473
5W	.406	.510	13/16	3 1/16	33/64	5/8	.750-28 UN-2A	3/4	.588
6W	.510	.635	15/16	3 1/4	41/64	5/8	.875-28 UN-2A	3/4	.740
7W	.635	.760	1 1/16	3 3/8	49/64	5/8	1.000-28 UN-2A	3/4	.865
8W	.760	1.010	1 1/4	4	1 1/32	5/8	1.1875-28 UN-2A	3/4	. . .

GENERAL NOTE: All dimensions except *E* are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

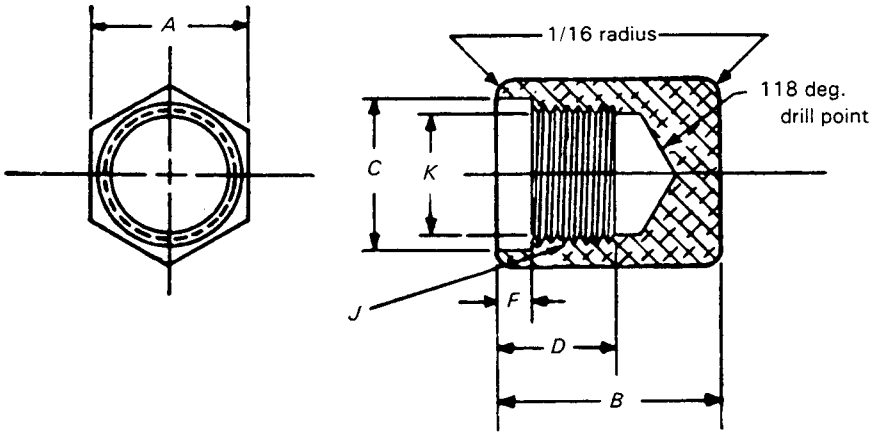


TABLE 3 WIRE TYPE PLUG GAGE HANDLES, DETAILS OF CAPPING NUT

Handle Size No.	Size Range, Nominal		A	B	C	D	F	J	K (Minor Diameter)
	Above	To and Including							
1W-A	0.010	0.075	1/4	5/8	0.220 .230	5/16	3/32	.216-32 UNEF-2B	0.182 .190
2W-A	.075	.180	3/8	11/16	.316 .326	3/8	1/8	.3125-32 UNEF-2B	.279 .286
3W-A	.180	.281	9/16	15/16	.504 .514	7/16	1/8	.500-28 UNEF-2B	.461 .470
4W-A	.281	.406	11/16	1 1/16	.630 .640	9/16	1/4	.625-28 UN-2B	.586 .595
5W-A	.406	.510	13/16	1 1/4	.755 .765	11/16	3/16	.750-28 UN-2B	.711 .720
6W-A	.510	.635	15/16	1 9/32	.880 .890	11/16	3/16	.875-28 UN-2B	.836 .845
7W-A	.635	.760	1 1/16	1 9/32	1.005 1.015	11/16	3/16	1.000-28 UN-2B	.961 .970
8W-A	.760	1.010	1 1/4	1 5/16	1.193 1.203	1 3/16	3/16	1.1875-28 UN-2B	1.156 1.166

GENERAL NOTE: All dimensions except *J* are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

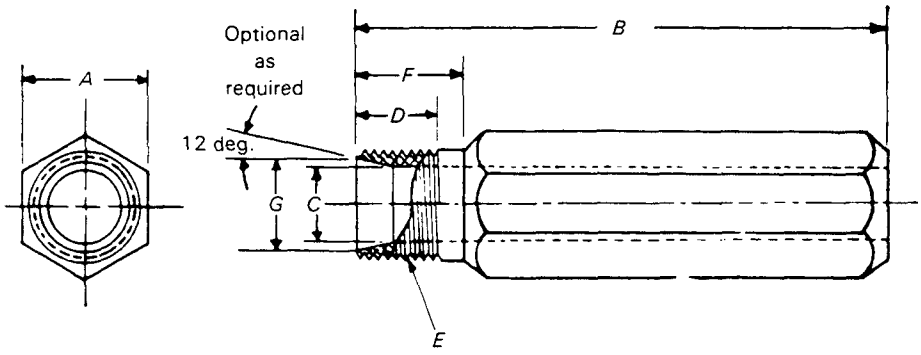


TABLE 4 SINGLE-END WIRE TYPE PLUG GAGE HANDLES, DETAILS OF BODY

Handle Size No.	Size Range, Nominal								
	Above	To and Including	*A*	*B* Min.	*C*	*D*	*E*	*F*	*G*
1W-S	0.010	0.075	1/4	1 5/8	3/32	9/32	.216-32 UNEF-2A	21/64	0.151
2W-S	.075	.180	3/8	2 5/32	3/16	5/16	.3125-32 UNEF-2A	7/16	.235
3W-S	.180	.281	9/16	2 5/8	19/64	13/32	.500-28 UNEF-2A	1/2	.348
4W-S	.281	.406	11/16	3 3/32	27/64	7/16	.625-28 UN-2A	5/8	.473
5W-S	.406	.510	13/16	3 5/8	33/64	5/8	.750-28 UN-2A	3/4	.588
6W-S	.510	.635	15/16	3 7/8	41/64	5/8	.875-28 UN-2A	3/4	.740
7W-S	.635	.760	1 1/16	4	49/64	5/8	1.000-28 UN-2A	3/4	.865
8W-S	.760	1.010	1 1/4	4	1 3/32	5/8	1.1875-28 UN-2A	3/4	. . .

GENERAL NOTE: All dimensions except *E* are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

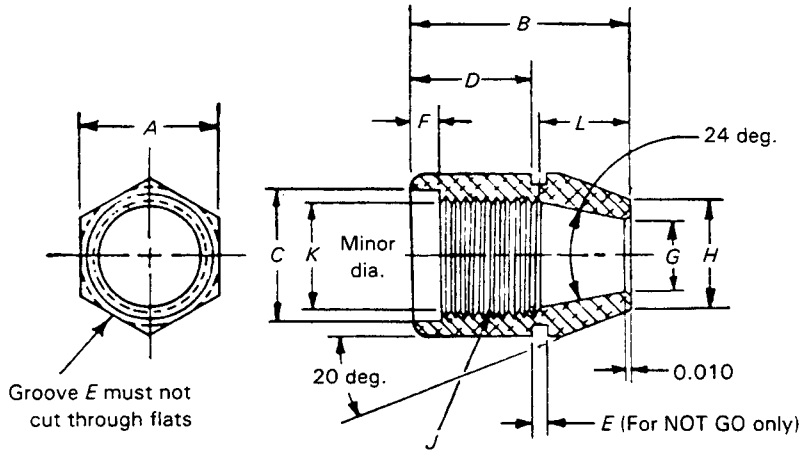


TABLE 5 WIRE TYPE PLUG GAGE COLLET NUTS

Handle Size No.	Size Range												
	Above	To and Including	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*J*	*K*	*L*
1W	0.010	0.075	1/4	9/16	{0.220 .230}	11/32	1/32	3/32	0.078	7/32	.216-32 UNEF-2B	{0.182 .190}	5/32
2W	.075	.180	3/8	11/16	{.316 .326}	7/16	1/32	1/8	.185	5/16	.3125-32 UNEF-2B	{.279 .286}	7/32
3W	.180	.281	9/16	15/16	{.504 .514}	1/2	1/16	1/8	.285	7/16	.500-28 UNEF-2B	{.461 .470}	13/32
4W	.281	.406	11/16	1 1/16	{.630 .640}	5/8	1/16	1/4	.412	9/16	.625-28 UN-2B	{.586 .595}	7/16
5W	.406	.510	13/16	1 1/4	{.755 .765}	3/4	1/16	3/16	.515	21/32	.750-28 UN-2B	{.711 .720}	1/2
6W	.510	.635	15/16	1 9/32	{.880 .890}	13/16	1/16	3/16	.640	3/4	.875-28 UN-2B	{.836 .845}	1/2
7W	.635	.760	1 1/16	1 9/32	{1.005 1.015}	13/16	1/16	3/16	.765	7/8	1.000-28 UN-2B	{.961 .970}	1/2
8W	.760	1.010	1 1/4	1 5/16	{1.193 1.203}	3/4	1/16	3/16	1.015	1 1/8	1.1875-28 UN-2B	{1.156 1.166}	17/32

GENERAL NOTES:
(a) All dimensions except *J* are in inches.
(b) If collet nuts are colored, they shall be green for GO and red for NOT GO.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

TABLE 6 WIRE TYPE PLUG GAGE COLLET BUSHINGS, SIZE RANGES

Bushing No.	Size Range, in.	Bushing No.	Size Range, in.
1-W-.015	0.010-.015	4-W-.331	0.321-.331
1-W-.020	.015-.020	4-W-.341	.331-.341
1-W-.025	.020-.025	4-W-.351	.341-.351
1-W-.030	.025-.030	4-W-.361	.351-.361
1-W-.035	.030-.035	4-W-.371	.361-.371
1-W-.040	.035-.040	4-W-.382	.371-.382
1-W-.045	.040-.045	4-W-.394	.382-.394
1-W-.050	.045-.050	4-W-.406	.394-.406
1-W-.055	.050-.055		
		5-W-.420	.406-.420
1-W-.060	.055-.060	5-W-.435	.420-.435
1-W-.065	.060-.065	5-W-.450	.435-.450
1-W-.070	.065-.070	5-W-.465	.450-.465
1-W-.075	.070-.075		
		5-W-.480	.465-.480
2-W-.082	.075-.082	5-W-.495	.480-.495
2-W-.089	.082-.089	5-W-.510	.495-.510
2-W-.096	.089-.096		
2-W-.103	.096-.103	6-W-.532	.510-.532
2-W-.110	.103-.110	6-W-.547	.532-.547
		6-W-.563	.547-.563
2-W-.117	.110-.117	6-W-.579	.563-.579
2-W-.124	.117-.124		
2-W-.131	.124-.131	6-W-.594	.579-.594
2-W-.138	.131-.138	6-W-.610	.594-.610
2-W-.145	.138-.145	6-W-.625	.610-.625
		6-W-.635	.625-.635
2-W-.152	.145-.152		
2-W-.159	.152-.159	7-W-.656	.635-.656
2-W-.166	.159-.166	7-W-.672	.656-.672
2-W-.173	.166-.173	7-W-.688	.672-.688
2-W-.180	.173-.180	7-W-.704	.688-.704
3-W-.188	.180-.188	7-W-.719	.704-.719
3-W-.196	.188-.196	7-W-.735	.719-.735
3-W-.204	.196-.204	7-W-.750	.735-.750
3-W-.212	.204-.212	7-W-.760	.750-.760
3-W-.220	.212-.220	8-W-.781	.760-.781
3-W-.228	.220-.228	8-W-.812	.781-.812
3-W-.236	.228-.236	8-W-.843	.812-.843
3-W-.244	.236-.244	8-W-.875	.843-.875
3-W-.252	.244-.252	8-W-.906	.875-.906
3-W-.261	.252-.261	8-W-.937	.906-.937
3-W-.271	.261-.271	8-W-.968	.937-.968
3-W-.281	.271-.281	8-W-1.010	.968-1.010
4-W-.291	.281-.291		
4-W-.301	.291-.301		
4-W-.311	.301-.311		
4-W-.321	.311-.321		

GENERAL NOTE:
Bushings must be adjustable for any plug within the respective size ranges tabulated.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

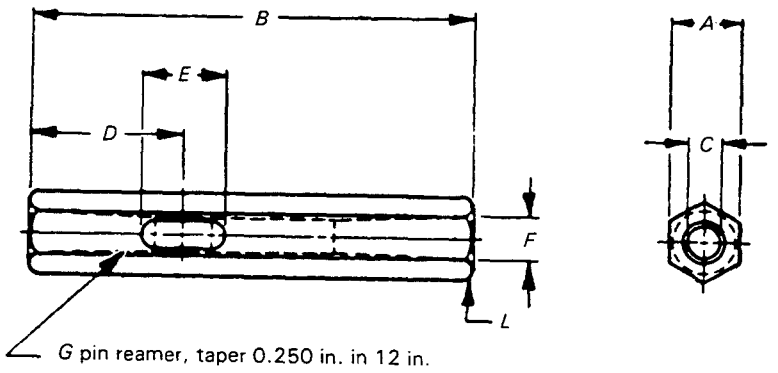


TABLE 7 HANDLES FOR PLAIN CYLINDRICAL AND THREAD PLUG GAGES, TAPER LOCK DESIGN — RANGE ABOVE 0.059 IN. TO AND INCLUDING 0.230 IN.

Handle Size No.	Nominal Range, Thread Plug Diameters, Inclusive		Decimal Range, Plain and Thread Plug Diameters		General Dimensions								
	From No.	To No.	Above	To and Including	*A*	*B*	Drill Size *C*	*D*	*E*	*F* Min.	*F* Max.	*G*, No.	*L*
000	0	3	0.059	0.105	1/4	1 1/2	No.34 (0.111)	9/16	5/64 × 1/4	0.125	0.126	000	1/32
00	4	6	.105	.150	1/4	1 3/4	No.29 (0.136)	5/8	3/32 × 5/16	.155	.156	0	1/32
0	8	12	.150	.230	5/16	2	No.20 (0.161)	11/16	1/8 × 3/8	.180	.181	2	1/32

GENERAL NOTES:
(a) All dimensions except *C* are in inches.
(b) It shall be standard practice to insert GO member in the end of the handle having the drift hole.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

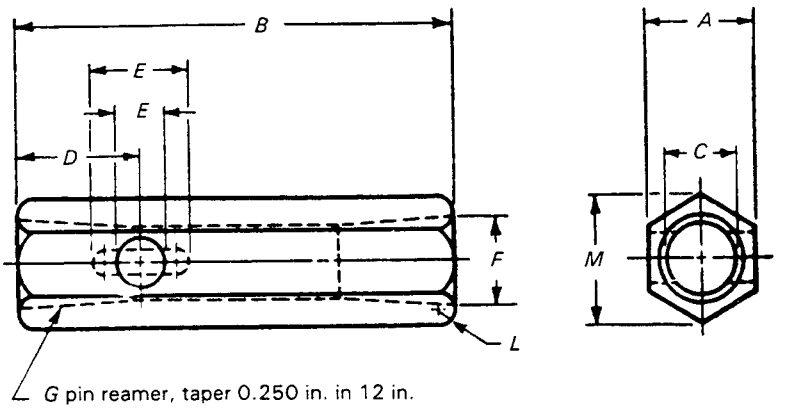


TABLE 8 HANDLES FOR PLAIN CYLINDRICAL AND THREAD PLUG GAGES, TAPER LOCK DESIGN — RANGE ABOVE 0.230 IN. TO AND INCLUDING 1.510 IN.

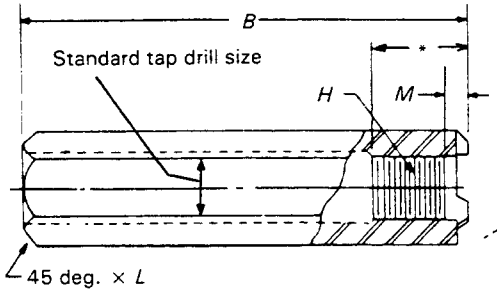
Handle Size No.	Nominal Range, Thread Plug Diameters, Inclusive		Decimal Range, Plain and Thread Plug Diameters		General Dimensions									
	From	To	Above	To and Including	*A*	*B*	*C*	*D*	*E*	*F* Min.	*F* Max.	*G*, No.	*L*	*M* Reference
1	1/4	5/16	0.230	0.365	3/8	2 3/4	7/32	25/32	1/8 × 1/2	0.239	0.240	4	1/16	0.433
2	3/8	1/2	.365	.510	1/2	3	0.29	25/32	15/64	.309	.310	6	1/16	.577
3	9/16	3/4	.510	.825	11/16	3 1/4	25/64	53/64	9/32	.409	.410	7	3/32	.794
4	7/8	1 1/8	.825	1.135	7/8	3 5/8	37/64	63/64	3/8	.609	.610	10	3/32	1.010
5	1 1/4	1 1/2	1.135	1.510	1	4	25/32	1 1/8	7/16	.809	.810	11	1/8	1.155

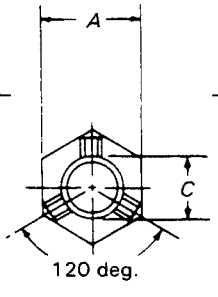
GENERAL NOTES:
(a) All dimensions except *G* are in inches.
(b) Taper lock handles are standard for all taper pipe thread plug gages to and including 2 in. nominal pipe size (see Table 27).
(c) It shall be standard practice to insert the GO member in the end of the handle having the drift hole.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

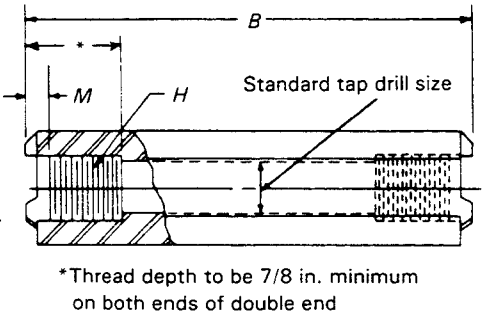
TABLE 9 HANDLES AND SCREWS FOR PLAIN CYLINDRICAL, THREAD, AND SPLINE (INVOLUTE, SERRATED, STRAIGHT-SIDED) PLUG GAGES, TRILOCK DESIGN — RANGE ABOVE 0.760 IN. TO AND INCLUDING 8.010 IN.

Single-End Handle



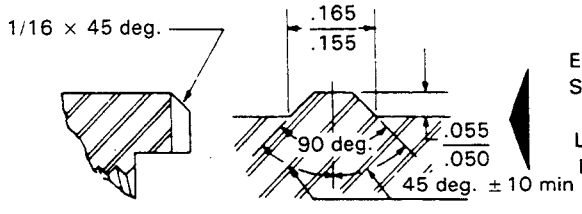


Double-End Handle

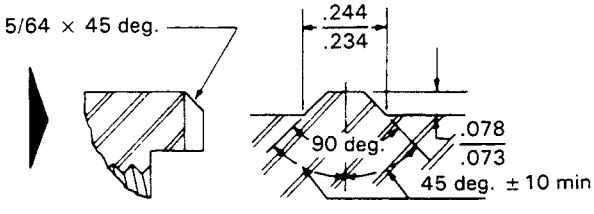


*Thread depth to be 7/8 in. minimum on both ends of double end

2-1/2, 3-1/2, and 4-1/2 Handles



5-1/2, 6, and 7 Handles

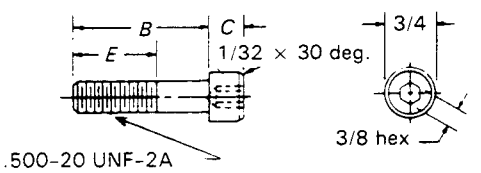


Handle Size No.	Nominal Range		Decimal Range		General Dimensions						Screw No.
	From	To	Above	To and Including	*A*	*B*	*C*	*H*	*L*	*M*	
2 1/2	3/4	15/16	0.760	0.947	1/2	4	5/16	.250-20 UNC-2B	1/16	1/8	3
3 1/2	15/16	1 1/8	0.947	1.135	5/8	4	25/64	.250-20 UNC-2B	1/16	1/8	3
4 1/2	1 1/8	1 1/2	1.135	1.510	13/16	4	9/16	.375-16 UNC-2B	3/32	1/8	4
5 1/2	1 1/2	2	1.510	2.010	1	4 1/2	3/4	.500-20 UNF-2B	1/8	1/4	1
6	2	2 1/2	2.010	2.510	1 1/8	5	13/16	.500-20 UNF-2B	1/8	1/4	1
7	2 1/2	8	2.510	8.010	1 1/4	6	15/16	.875-14 UNF-2B	5/32	1/4	2

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

TABLE 9 HANDLES AND SCREWS FOR PLAIN CYLINDRICAL, THREAD, AND SPLINE (INVOLUTE, SERRATED, STRAIGHT-SIDED) PLUG GAGES, TRILOCK DESIGN — RANGE ABOVE 0.760 IN. TO AND INCLUDING 8.010 IN. (CONT'D)

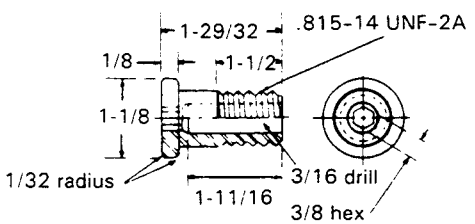
Screw No. 1



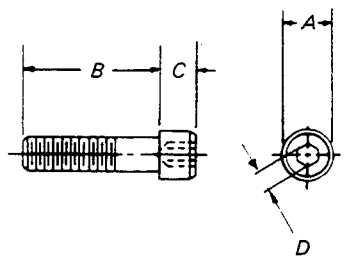
SCREW NO. 1

Plug	*B*	*C*	*E*
GO (for fine threads) 16 TPI and finer	1 1/2	5/16	1 1/4
NOT GO	1 1/2	5/16	1 1/4
GO	2 1/4	1/2	1 1/4
Progressive	3	1/2	1 1/4

Screw No. 2



Screw Nos. 3 and 4



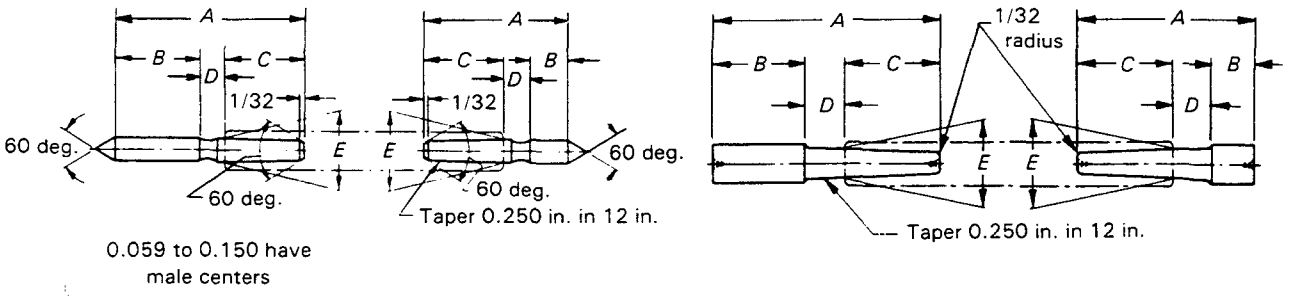
SCREW NOS. 3 AND 4

Screw No.	Socket Head Cap Screw Size	*A*	Length *B*				*C*	*D*
			GO		NOT GO			
			Plain and Coarser Than 12 TPI	12 Pitch and Finer	Plain	Thread		
3	.250-20 UNC-2A	3/8	1 1/2	1 1/2	1	1	1/4	3/16
4	.375-16 UNC-2A	9/16	1 1/2	1 1/4	1 1/4	1 1/4	3/8 (1)	5/16

NOTE:
(1) *C* dimension for NOT GO screw is 1/4 in.

GENERAL NOTES:
(a) All dimensions are in inches.
(b) Screw No. 2 is 2 3/4 in. under the head when used for progressive length blanks, or truncated set plug blanks for thick rings (see Table 26).

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale



0.059 to 0.150 have male centers

TABLE 10 PLAIN CYLINDRICAL PLUG GAGING MEMBERS, TAPER LOCK DESIGN — RANGE ABOVE 0.059 IN. TO AND INCLUDING 0.230 IN.

Handle Size No.	Range in Diameter		General Dimensions											
			GO						NOT GO					
	Above	To and Including	A	B	C	D	E Min.	E Max.	A	B	C	D	E Min.	E Max.
000	0.059	0.105	1 1/16	3/8	1/2	3/16	0.125	0.126	7/8	3/16	1/2	3/16	0.125	0.126
00	.105	.150	1 1/8	3/8	9/16	3/16	.155	.156	31/32	7/32	9/16	3/16	.155	.156
0	.150	.230	1 9/32	13/32	5/8	1/4	.180	.181	1 5/32	9/32	5/8	1/4	.180	.181

GENERAL NOTES:
(a) All dimensions are in inches.
(b) Progressive style plain plug blanks would have *B* gaging lengths of 11/16 in., 23/32 in., and 13/16 in., respectively, which allows for GO and NOT GO sections of standard length plus a 1/16 in. minimum recess in between.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

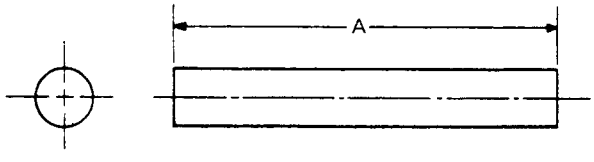


TABLE 11 PLAIN CYLINDRICAL PLUG GAGE BLANKS, WIRE TYPE DESIGN — RANGE ABOVE 0.010 IN. TO AND INCLUDING 1.010 IN.

Handle Size No.	Range in Diameters		GO and NOT GO Length, *A* [Note (1)]
	Above	To and Including	
1W, 1W-S, or 1W-A	0.010	0.075	1
2W, 2W-S, or 2W-A	.075	.180	1 1/4
3W, 3W-S, or 3W-A	.180	.281	1 1/2
4W, 4W-S, or 4W-A	.281	.406	1 3/4
5W, 5W-S, or 5W-A	.406	.510	2
6W, 6W-S, or 6W-A	.510	.635	2
7W, 7W-S, or 7W-A	.635	.760	2
8W, 8W-S, or 8W-A	.760	1.010	2

GENERAL NOTE: All dimensions are in inches.

NOTE:
(1) Lengths shown for *A* in ranges above 0.010 in. to and including 1.010 in. are minimum. Commercially available lengths exceeding these values shall be considered acceptable alternates.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

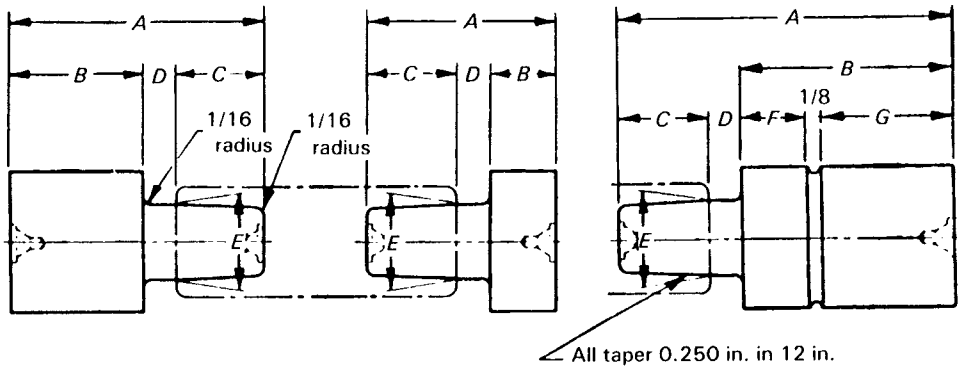


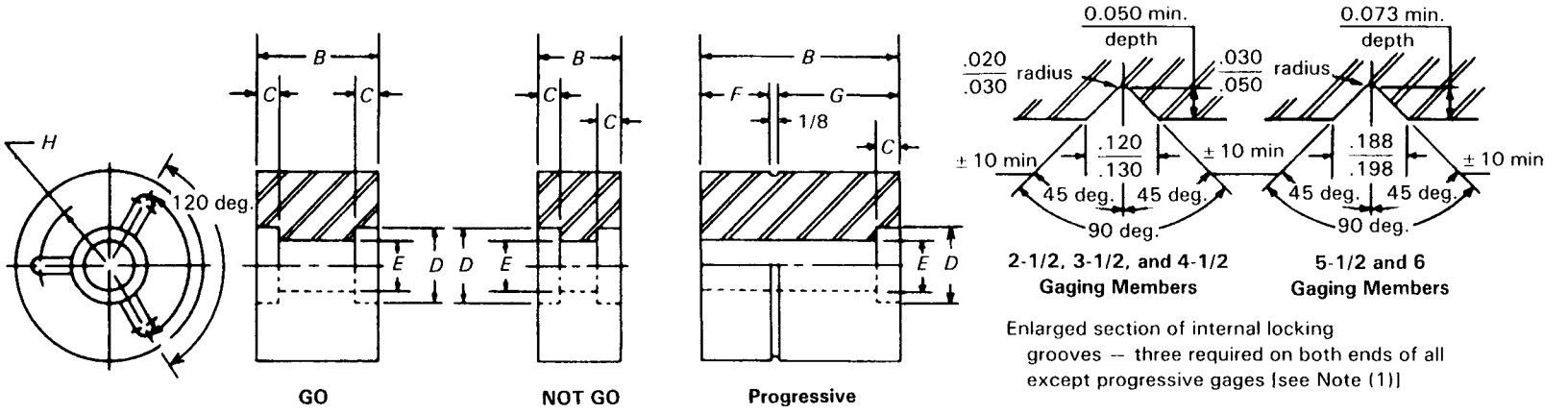
TABLE 12 PLAIN CYLINDRICAL PLUG GAGING MEMBERS, TAPER LOCK DESIGN — RANGE ABOVE 0.230 IN. TO AND INCLUDING 1.510 IN.

Handle Size No.	Range in Diameters		General Dimensions																			
			GO						NOT GO						Progressive							
							E						E						E			
	Above	To and Including	A	B	C	D	Min.	Max.	A	B	C	D	Min.	Max.	A	B	C	D	Min.	Max.	F	G
1	0.230	0.365	1 3/4	3/4	3/4	1/4	0.239	0.240	1 5/16	5/16	3/4	1/4	0.239	0.240	2 3/16	1 3/16	3/4	1/4	0.239	0.240	5/16	3/4
2	.365	.510	2	1	3/4	1/4	.309	.310	1 3/8	3/8	3/4	1/4	.309	.310	2 1/2	1 1/2	3/4	1/4	.309	.310	3/8	1
3	.510	.825	2 1/4	1 1/4	3/4	1/4	.408	.410	1 1/2	1/2	3/4	1/4	.408	.410	2 7/8	1 7/8	3/4	1/4	.408	.410	1/2	1 1/4
4	.825	1.135	2 11/16	1 1/2	7/8	5/16	.608	.610	1 13/16	5/8	7/8	5/16	.608	.610	3 5/16	2 1/8	7/8	5/16	.608	.610	5/8	1 3/8
5	1.135	1.510	3	1 5/8	1	3/8	.808	.810	2 1/8	3/4	1	3/8	.808	.810	3 3/4	2 3/8	1	3/8	.808	.810	3/4	1 1/2

GENERAL NOTE: All dimensions are in inches.

Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS



Enlarged section of internal locking grooves -- three required on both ends of all except progressive gages [see Note (1)]

TABLE 13 PLAIN CYLINDRICAL PLUG GAGING MEMBERS, TRILOCK DESIGN — RANGE ABOVE 0.760 IN. TO AND INCLUDING 2.510 IN.

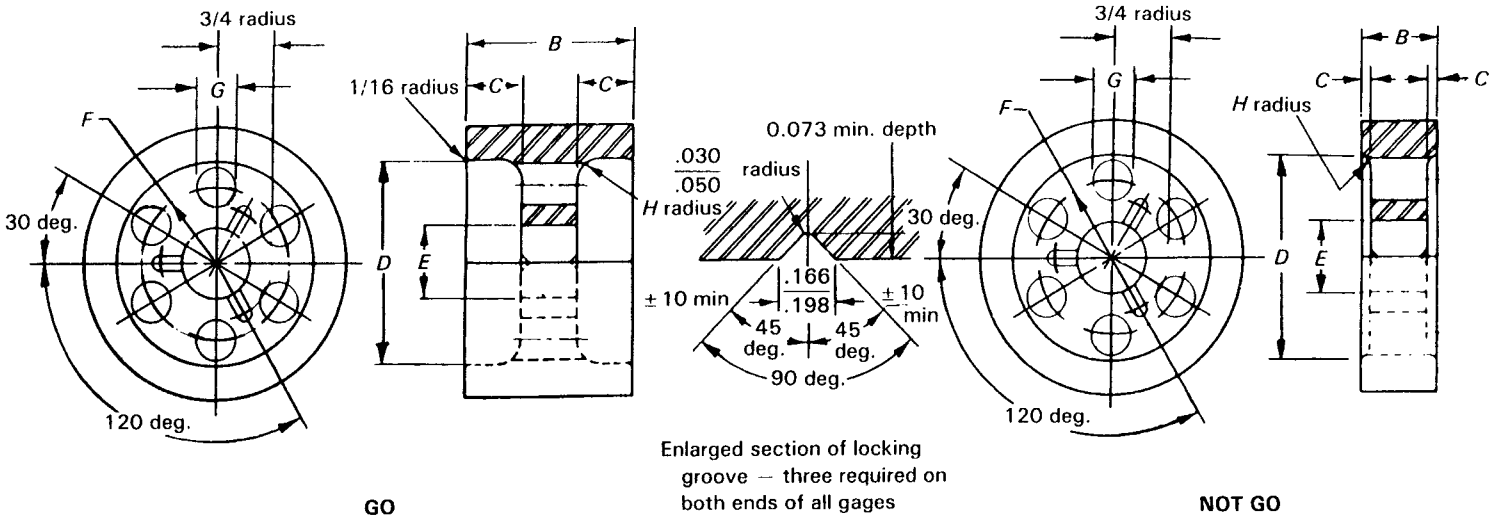
Handle Size No.	Plain Plug Diameters				GO				NOT GO				Progressive						
	Nominal Range, Inclusive		Decimal Range																
	From	To	Above	To and Including	B	C	D	E	B	C	D	E	B	C	D	E	F	G	H
2 1/2	3/4	15/16	.760	.947	1 1/4	1/4	25/64	17/64	3/4	1/4	25/64	17/64	(1)	...	...	...	...	...	15/64
3 1/2	15/16	1 1/8	.947	1.135	1 3/8	1/4	25/64	17/64	3/4	1/4	25/64	17/64	(1)	...	...	...	...	...	21/64
4 1/2	1 1/8	1 1/2	1.135	1.510	1 1/2	3/8	37/64	25/64	3/4	1/4	37/64	25/64	(1)	...	...	...	...	...	27/64
5 1/2	1 1/2	2	1.510	2.010	1 7/8	1/2	25/32	17/32	7/8	5/16	25/32	17/32	2 7/8	1/2	25/32	17/32	7/8	1 7/8	9/16
6	2	2 1/2	2.010	2.510	2	1/2	25/32	17/32	7/8	5/16	25/32	17/32	3	1/2	25/32	17/32	7/8	2	5/8

GENERAL NOTE: All dimensions are in inches.

NOTE:
(1) See Table 12 for taper lock progressive members in range from 0.760 in. through 1.510 in.

Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS



GO

Enlarged section of locking groove — three required on both ends of all gages

NOT GO

TABLE 14 PLAIN CYLINDRICAL PLUG GAGING MEMBERS, TRILOCK DESIGN — RANGE ABOVE 2.510 IN. TO AND INCLUDING 8.010 IN.

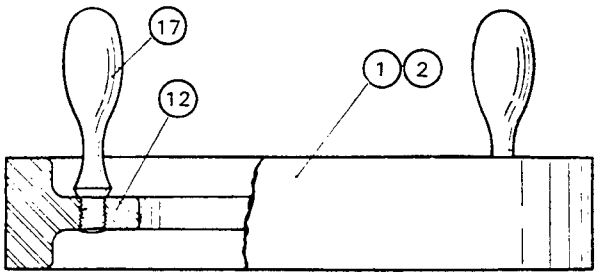
Handle Size No.	Plain Plug Diameters				GO							NOT GO						
	Nominal Range, Inclusive		Decimal Range															
	From	To	Above	To and Including	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*B*	*C*	*D*	*E*	*F*	*G*	*H*
7	2 1/2	3	2.510	3.010	2	5/8	1 7/8	29/32	. . .	. . .	3/16	1	1/8	1 7/8	29/32	. . .	. . .	3/16
7	3	3 1/2	3.010	3.510	2	5/8	2 1/4	29/32	. . .	. . .	5/16	1	1/8	2 1/4	29/32	. . .	. . .	3/16
7	3 1/2	4	3.510	4.010	2 1/8	11/16	2 5/8	29/32	. . .	. . .	5/16	1	1/8	2 5/8	29/32	. . .	. . .	3/16
7	4	4 1/2	4.010	4.510	2 1/8	11/16	3	29/32	. . .	. . .	5/16	1	1/8	3	29/32	. . .	. . .	3/16
7	4 1/2	5	4.510	5.010	2 1/8	11/16	3 7/16	29/32	. . .	. . .	5/16	1	1/8	3 7/16	29/32	. . .	. . .	3/16
7	5	5 1/2	5.010	5.510	2 1/8	11/16	3 7/8	29/32	. . .	. . .	5/16	1	1/8	3 7/8	29/32	. . .	. . .	3/16
7	5 1/2	6	5.510	6.010	2 1/8	11/16	4 5/16	29/32	1 3/8	1	5/16	1	1/8	4 5/16	29/32	1 3/8	1	3/16
7	6	6 1/2	6.010	6.510	2 1/8	11/16	4 3/4	29/32	1 1/2	1 1/8	5/16	1	1/8	4 3/4	29/32	1 1/2	1 1/8	3/16
7	6 1/2	7	6.510	7.010	2 1/8	11/16	5 1/4	29/32	1 5/8	1 1/4	5/16	1	1/8	5 1/4	29/32	1 5/8	1 1/4	3/16
7	7	7 1/2	7.010	7.510	2 1/8	11/16	5 3/4	29/32	1 3/4	1 3/8	5/16	1	1/8	5 3/4	29/32	1 3/4	1 3/8	3/16
7	7 1/2	8	7.510	8.010	2 1/8	11/16	6 1/4	29/32	1 7/8	1 1/2	5/16	1	1/8	6 1/4	29/32	1 7/8	1 1/2	3/16

GENERAL NOTES:

(a) All dimensions are in inches.

(b) Blanks for progressive style plain plug gages are same as those in Table 26 for truncated type setting plugs for thick rings. This provides total gaging lengths that allow GO and NOT GO sections of standard lengths, per above, plus a 1/8 in. recess in between. Progressive blanks require handle Screw No. 2, having a 2 3/4 in. length under the head.

Not for Resale



(1) GO gaging member
(2) NOT GO gaging member
(12) Web
(17) Ball handle

FIG. 2 PLAIN CYLINDRICAL PLUG GAGES, DETAILS OF CONSTRUCTION — RANGE ABOVE 8.010 IN.

3.1.5 Annular Design Above 8.010 in.

(*a*) Because of the fact that large plug gages are heavy and difficult to handle, it was necessary to adopt a design for the range above 8.010 in. that would have the lightest possible section consistent with strength and permanence. The annular design having a rim and web of properly proportioned section, the center being bored out for purposes of weight reduction, has, therefore, been adopted as standard. The web is provided with four tapped holes for convenience in bolting to a face plate during manufacturing. Two of these are further employed for fixing ball handles to the gaging member.

(*b*) Details of construction have been worked out and are completely dimensioned. See Fig. 2 above and Table 15 (p. 22).

3.2 Handles for Plain Cylindrical and Thread Plug Gage Blanks

(*a*) Handles for wire type gages are hexagonal with hexagonal collet nuts, and are provided in both single- and double-end types. See Tables 1 through 5 (pp. 6–10) for details. Handles for the taper lock types are provided with tapered holes in both ends. See Tables 7 and 8 (pp. 12–13). Handles for the trilock type gages are provided in both single- and double-end types. See Table 9 (p. 14). Commercial ball handles are employed for the annular plug gage and for certain of the large ring gages. See references in Tables 15, 21, and 35 (pp. 22, 30, and 52).

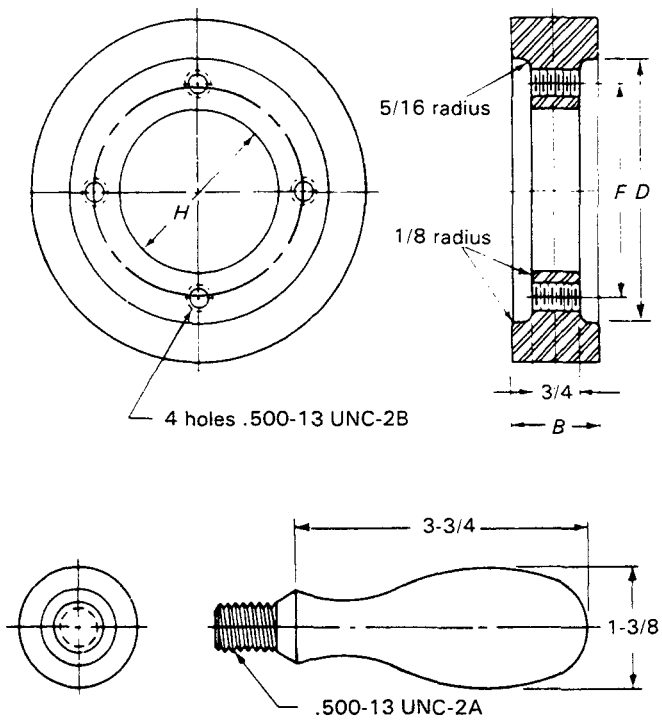
(*b*) Handles as designed for all gages offer a feature of economy in that they may be disassembled from gaging members, when the latter are worn out, or discarded for any other reason, and then reassembled with new gaging members, thus giving them, with reasonable care, practically indefinite life.

(*c*) Wire type handles and their bushings might vary slightly in design from one gage supplier manufacturer to another, and shall be considered acceptable as long as they hold the gage member securely.

3.3 Thread Plug Gage Blanks

The wire type, taper lock, trilock, and annular designs have been adopted for thread plug gage blanks and handles. The designs are patterned after the plain cylindrical plug gage blanks described on pp. 3-20, with the exception that the length of thread gaging members is slightly different in some instances. The use of taper lock blanks and handles for pipe thread plug gages is standard to and including 2 in. nominal pipe size. General details of construction will be apparent from Fig. 3 (pp. 23-24). Data for thread plug gages are presented in Tables 16 through 21 (pp. 25–30). Tables 22 and 23, which set forth dimensions of gaging members for fine pitch instrument thread plugs, are given on pp. 31-32, and Tables 24 through 26, for thread setting plugs, on pp. 33-35. Tables 27 and 28, specifying handles and gaging members for pipe-thread plug gages, are set forth on pp. 36–37.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale



No. 7 Handle (Commercial No. 7 Ball Handle)

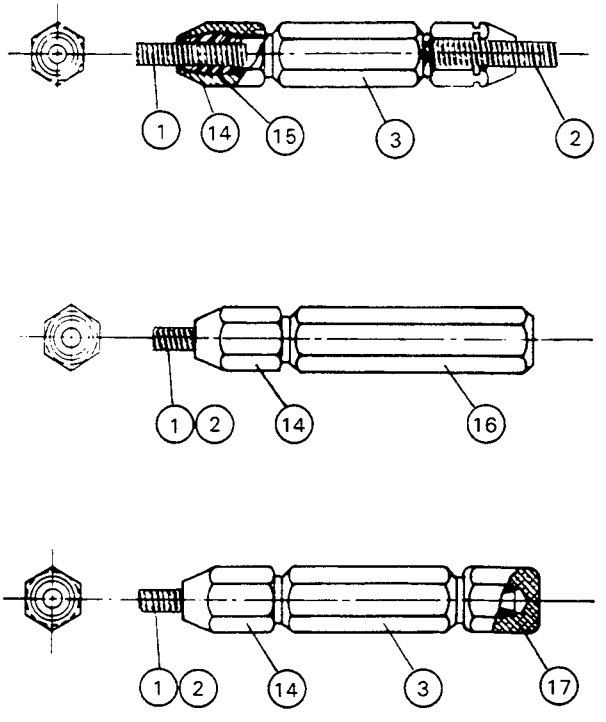
TABLE 15 PLAIN CYLINDRICAL PLUG GAGES, ANNULAR DESIGN — RANGE ABOVE 8.010 IN. TO AND INCLUDING 12.010 IN.

Ball Handle Size No. [Note (1)]	Plain Plug Diameters				*B*		*D*	*F*	*H*
	Nominal Range, Inclusive		Decimal Range						
	From	To	Above	To and Including	GO	NOT GO			
7	8	8 1/2	8.010	8.510	2 1/4	1	6 1/2	5 1/4	4
7	8 1/2	9	8.510	9.010	2 1/4	1	6 15/16	5 5/8	4 3/8
7	9	9 1/2	9.010	9.510	2 1/4	1	7 3/8	6	4 3/4
7	9 1/2	10	9.510	10.010	2 1/4	1	7 13/16	6 1/2	5 1/8
7	10	10 1/2	10.010	10.510	2 1/4	1	8 1/4	7	5 1/2
7	10 1/2	11	10.510	11.010	2 1/4	1	8 11/16	7 1/2	5 7/8
7	11	11 1/2	11.010	11.510	2 1/4	1	9 1/8	8	6 1/4
7	11 1/2	12	11.510	12.010	2 1/4	1	9 9/16	8 1/2	6 5/8

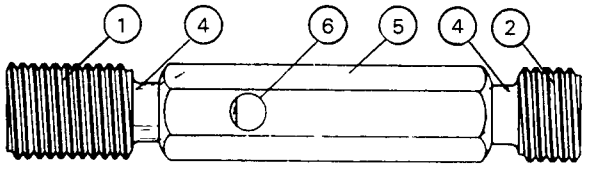
GENERAL NOTE: All dimensions are in inches.

NOTE:
(1) Two required per gage.

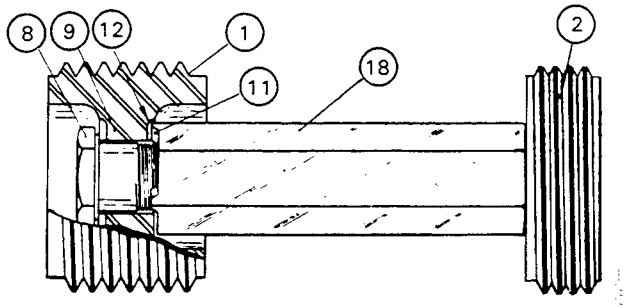
Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS Not for Resale



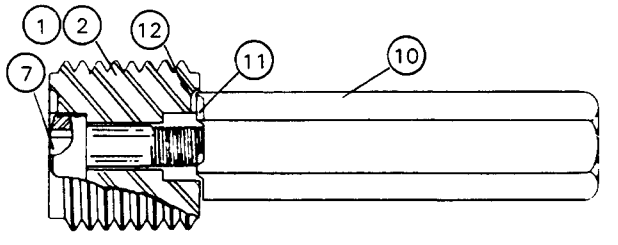
Range — above 0.059 in. to and including 1.010 in.



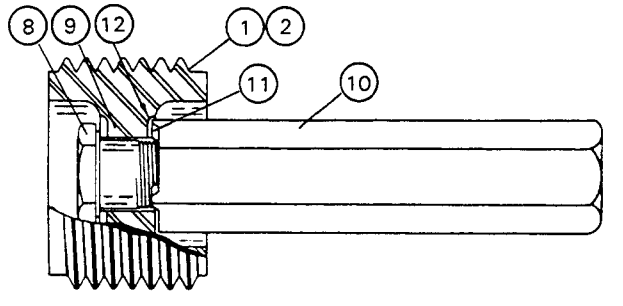
Range — No. 0 to and including 1.510 in.



Range — above 2.510 in. to and including 8.010 in.



Range — above 0.760 in. to and including 2.510 in.

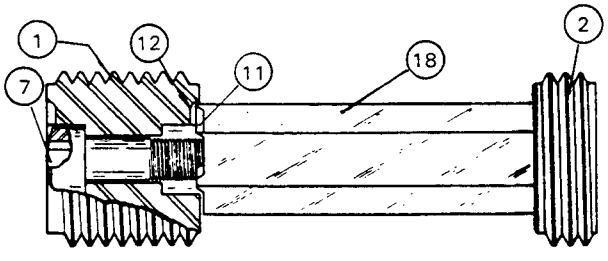


Range — above 2.510 in. to and including 8.010 in.

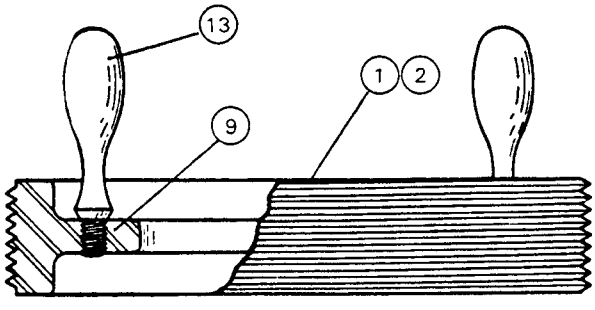
FIG. 3 THREAD PLUG GAGES — DETAILS OF CONSTRUCTION

(Figure 3 continues on next page.)

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale



Range — above 0.760 in. to and including 2.510 in.

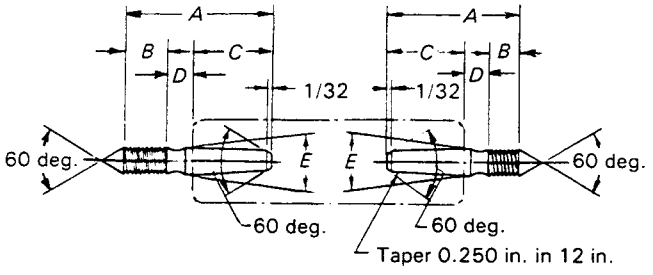


Range — above 8.010 in.

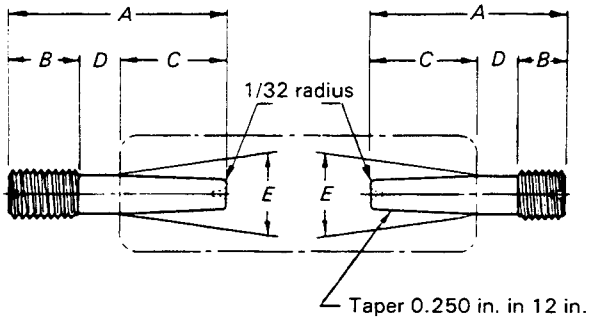
(1) GO gaging member
(2) NOT GO gaging member
(3) Double-end wire type handle
(4) Shank
(5) Taper lock handle
(6) Drift hole or slot
(7) Screw
(8) Screw
(9) Web
(10) Single-end trilock handle
(11) Locking prong
(12) Locking groove
(13) Ball handle
(14) Collet nut
(15) Bushing
(16) Single-end wire type handle
(17) Capping nut
(18) Double-end trilock handle

FIG. 3 THREAD PLUG GAGES — DETAILS OF CONSTRUCTION (CONT'D)

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale



No. 0 to No. 6, Inclusive



No. 8 to No. 12, Inclusive

TABLE 16 THREAD PLUG GAGING MEMBERS, TAPER LOCK DESIGN — RANGE FROM NO. 0 TO NO. 12, INCLUSIVE

Handle Size No.	Range, Thread Plug Diameters				General Dimensions											
	Nominal, Inclusive		Decimal		GO						NOT GO					
									E						E	
	From No.	To No.	Above	To and Including	A	B	C	D	Min.	Max.	A	B	C	D	Min.	Max.
000	0	3	0.059	0.105	15/16	1/4	1/2	3/16	0.125	0.126	7/8	3/16	1/2	3/16	0.125	0.126
00	4	6	.105	.150	1 1/16	5/16	9/16	3/16	.155	.156	31/32	7/32	9/16	3/16	.155	.156
0	8	12	.150	.230	1 9/32	13/32	5/8	1/4	.180	.181	1 5/32	9/32	5/8	1/4	.180	.181

GENERAL NOTE: All dimensions are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

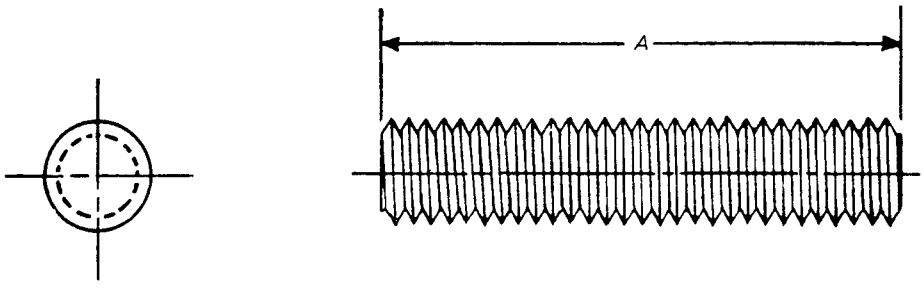


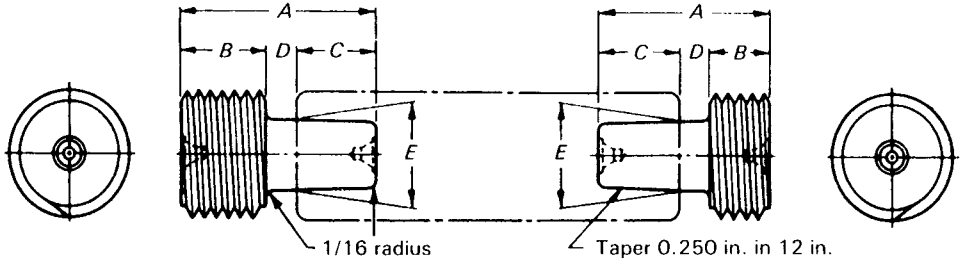
TABLE 17 THREAD PLUG GAGING MEMBERS, WIRE TYPE DESIGN — RANGE ABOVE 0.030 IN. TO AND INCLUDING 1.010 IN.

	Thread Diameters				Length *A*, in. [Note (1)]		Fine Pitch Instrument Lengths	
	Nominal Range, Inclusive, No. or in.		Decimal Range, in.					
Handle Size No.	From	To	Above	To and Including	GO	NOT GO	TPI Finer Than	GO and NOT GO Length *A*
1W, 1W-S, or 1W-A	No. 0	No. 1	0.030	0.075	1/2	1/2	. . .	. . .
2W, 2W-S, or 2W-A	No. 2	No. 5	.075	.130	5/8	5/8	. . .	. . .
2W, 2W-S, or 2W-A	No. 6	No. 8	.130	.180	3/4	3/4	. . .	. . .
3W, 3W-S, or 3W-A	No. 10	1/4	.180	.281	7/8	7/8	48	3/4
4W, 4W-S, or 4W-A	1/4	5/16	.281	.320	1	1	40	3/4
4W, 4W-S, or 4W-A	5/16	3/8	.320	.406	1 1/8	1 1/8	40	7/8
5W, 5W-S, or 5W-A	3/8	7/16	.406	.450	1 1/4	1 1/4	36	1
5W, 5W-S, or 5W-A	7/16	1/2	.450	.510	1 3/8	1 3/8	36	1
6W, 6W-S, or 6W-A	1/2	5/8	.510	.635	1 1/2	1 3/8	32	1 1/8
7W, 7W-S, or 7W-A	5/8	3/4	.635	.760	1 3/4	1 3/8	32	1 1/4
8W, 8W-S, or 8W-A	3/4	1	.760	1.010	2	1 1/2	32	1 1/4

NOTE:
(1) These lengths apply to standard and special diameter-pitch combinations not covered by Table 22. Lengths shown for *A* in ranges above 0.030 in. to and including 1.010 in. are minimum. Commercially available lengths exceeding these values shall be considered acceptable alternates.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS



Not less than three full threads must remain on NOT GO plug

TABLE 18 THREAD PLUG GAGING MEMBERS, TAPER LOCK DESIGN — RANGE FROM 1/4 IN. TO AND INCLUDING 1 1/2 IN.

Handle Size No.	Range					General Dimensions											
	Thread Plug Diameters					GO						NOT GO					
	Nominal Range, Inclusive		Decimal Range							E						E	
	From	To	Above	To and Including	TPI	A	B	C	D	Min.	Max.	A	B	C	D	Min.	Max.
1	1/4	5/16	0.230	0.365	. . .	1 1/2	1/2	3/4	1/4	0.239	0.240	1 5/16	5/16	3/4	1/4	0.239	0.240
2	3/8	1/2	.365	.510	. . .	1 3/4	3/4	3/4	1/4	.309	.310	1 3/8	3/8	3/4	1/4	.309	.310
3	9/16	3/4	.510	.825	. . .	1 7/8	7/8	3/4	1/4	.408	.410	1 1/2	1/2	3/4	1/4	.408	.410
4	7/8	1 1/8	.825	1.135	. . .	2 3/16	1	7/8	5/16	.608	.610	1 13/16	5/8	7/8	5/16	.608	.610
5	1 1/4	1 1/2	1.135	1.510	Coarser than 12	2 5/8	1 1/4	1	3/8	.808	.810	2 1/8	3/4	1	3/8	.808	.810
5	1 1/4	1 1/2	1.135	1.510	12 and finer	2 3/8	1	1	3/8	.808	.810	2 1/8	3/4	1	3/8	.808	.810

GENERAL NOTES:
(a) All dimensions are in inches.
(b) Taper lock gaging members are standard for all taper pipe-thread plug gages to and including 2 in. nominal pipe size. [See Tables 27 and 28 (pp. 36-37).]

Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

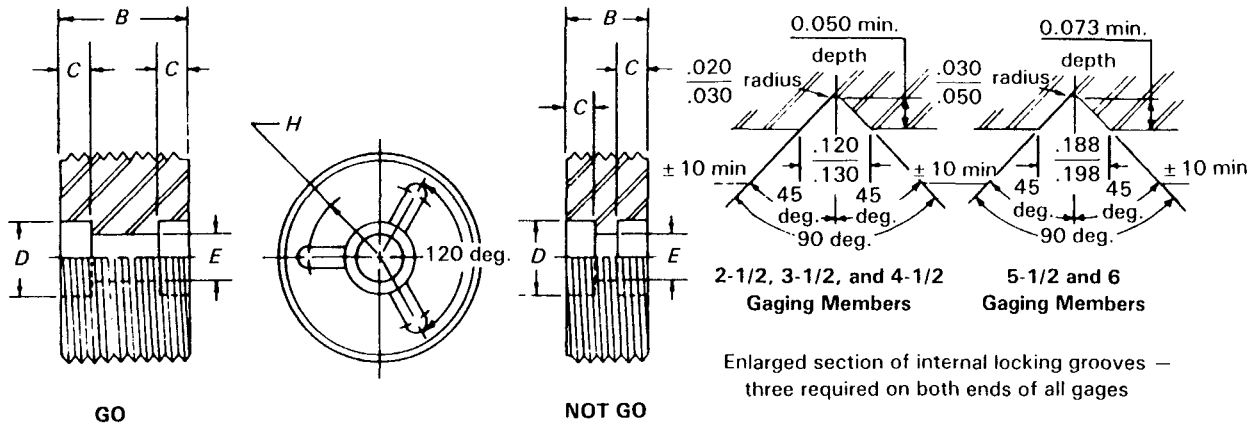


TABLE 19 THREAD PLUG GAGING MEMBERS, TRILOCK DESIGN — RANGE ABOVE 3/4 IN. TO AND INCLUDING 2 1/2 IN.

Handle Size No.	Thread Plug Diameters				GO												NOT GO				
	Nominal Range, Inclusive		Decimal Range		7 Pitch and Coarser				Finer Than 7 TPI and Coarser Than 13				13 TPI and Finer				All Pitches				
	From	To	Above	To and Including	B	C	D	E	B	C	D	E	B	C	D	E	B	C	D	E	H
2 1/2	3/4	15/16	0.760	0.947	1 1/4	1/4	25/64	17/64	1	1/4	25/64	17/64	1	1/4	25/64	17/64	3/4	1/4	25/64	17/64	15/64
3 1/2	15/16	1 1/8	0.947	1.135	1 3/8	1/4	25/64	17/64	1 1/8	1/4	25/64	17/64	1	1/4	25/64	17/64	3/4	1/4	25/64	17/64	21/64
4 1/2	1 1/8	1 1/2	1.135	1.510	1 1/2	3/8	37/64	25/64	1 1/4	3/8	37/64	25/64	1	3/8	37/64	25/64	3/4	1/4	37/64	25/64	27/64
	Thread Plug Diameters				GO												NOT GO				
	Nominal Range, Inclusive		Decimal Range		7 TPI and Coarser				Finer Than 7 TPI and Coarser Than 16				16 TPI and Finer				All Pitches				
Handle Size No.	From	To	Above	To and Including	B	C	D	E	B	C	D	E	B	C	D	E	B	C	D	E	H
5 1/2	1 1/2	2	1.510	2.010	1 7/8	1/2	25/32	17/32	1 1/4	3/8	25/32	17/32	7/8	5/16	25/32	17/32	7/8	5/16	25/32	17/32	9/16
6	2	2 1/2	2.010	2.510	2	1/2	25/32	17/32	1 3/8	3/8	25/32	17/32	7/8	5/16	25/32	17/32	7/8	5/16	25/32	17/32	5/8

GENERAL NOTE: All dimensions are in inches.

Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

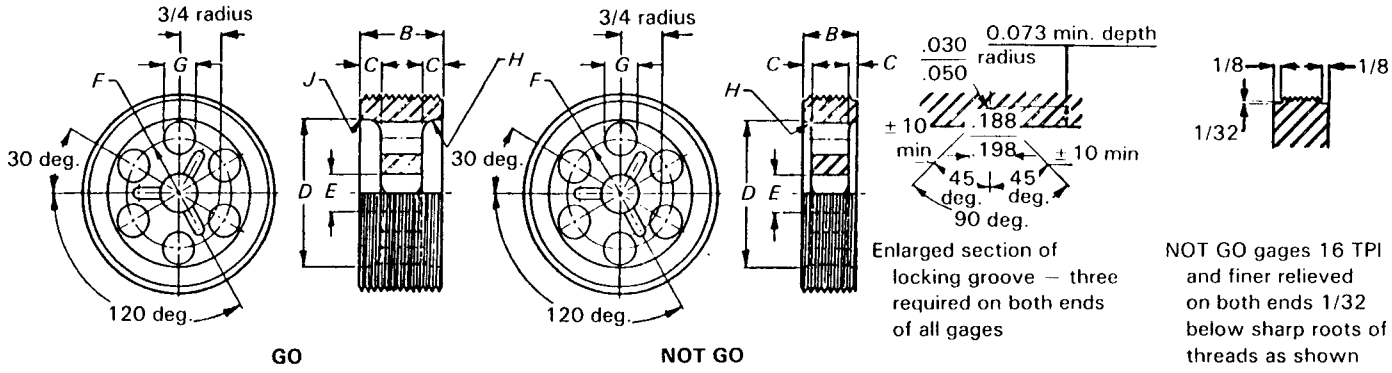


TABLE 20 THREAD PLUG GAGING MEMBERS, TRILOCK DESIGN — RANGE ABOVE 2½ IN. TO AND INCLUDING 8 IN.

	Thread Plug Diameters				GO											NOT GO			All			
	Nominal Range, Inclusive		Decimal Range		7 TPI and Coarser				Finer Than 7 TPI and Coarser Than 16 TPI				16 TPI and Finer			All Pitches			All Pitches			
Handle Size No.	From	To	Above	To and Including	*B*	*C*	*H*	*J*	*B*	*C*	*H*	*J*	*B*	*C*	*H*	*B*	*C*	*H*	*D*	*E*	*F*	*G*
7	2½	3	2.510	3.010	2	5/8	5/16	1/16	1½	3/8	3/16	1/16	1	1/8	3/16	1	1/8	3/16	1 7/8	29/32	. . .	. . .
7	3	3½	3.010	3.510	2	5/8	5/16	1/16	1½	3/8	1/4	1/16	1	1/8	3/16	1	1/8	3/16	2 1/4	29/32	. . .	. . .
7	3½	4	3.510	4.010	2 1/8	11/16	5/16	1/16	1½	3/8	1/4	1/16	1	1/8	3/16	1	1/8	3/16	2 5/8	29/32	. . .	. . .
7	4	4½	4.010	4.510	2 1/8	11/16	5/16	1/16	1½	3/8	1/4	1/16	1	1/8	3/16	1	1/8	3/16	3	29/32	. . .	. . .
7	4½	5	4.510	5.010	2 1/8	11/16	5/16	1/16	1½	3/8	1/4	1/16	1	1/8	3/16	1	1/8	3/16	3 7/16	29/32	. . .	. . .
7	5	5½	5.010	5.510	2 1/8	11/16	5/16	1/16	1½	3/8	1/4	1/16	1	1/8	3/16	1	1/8	3/16	3 7/8	29/32	. . .	. . .
7	5½	6	5.510	6.010	2 1/8	11/16	5/16	1/16	1½	3/8	1/4	1/16	1	1/8	3/16	1	1/8	3/16	4 5/16	29/32	1 3/8	1
7	6	6½	6.010	6.510	2 1/8	11/16	5/16	1/16	1½	3/8	1/4	1/16	1	1/8	3/16	1	1/8	3/16	4 3/4	29/32	1½	1 1/8
7	6½	7	6.510	7.010	2 1/8	11/16	5/16	1/16	1½	3/8	1/4	1/16	1	1/8	3/16	1	1/8	3/16	5 1/4	29/32	1 5/8	1
7	7	7½	7.010	7.510	2 1/8	11/16	5/16	1/16	1½	3/8	1/4	1/16	1	1/8	3/16	1	1/8	3/16	5 3/4	29/32	1 3/4	1 3/8
7	7½	8	7.510	8.010	2 1/8	11/16	5/16	1/16	1½	3/8	1/4	1/16	1	1/8	3/16	1	1/8	3/16	6 1/4	29/32	1 7/8	1½

GENERAL NOTE: All dimensions are in inches.

Not for Resale

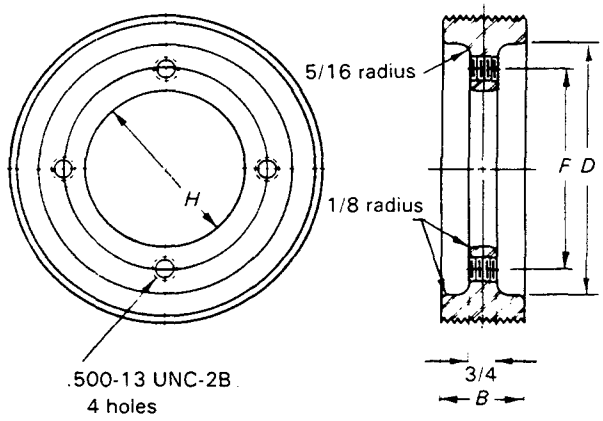


TABLE 21 THREAD PLUG GAGING MEMBERS, ANNULAR DESIGN — RANGE ABOVE 8.010 IN.

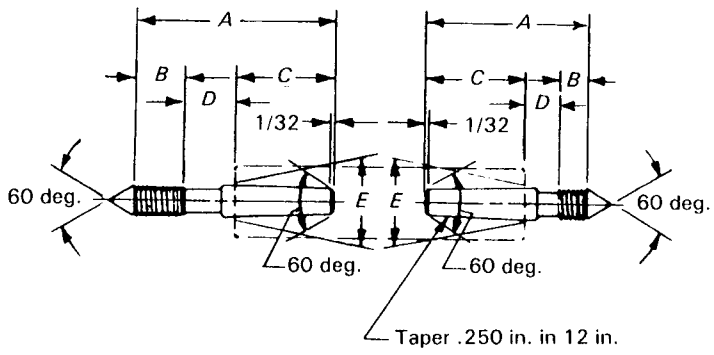
Ball Handle Size No. [Note (1)]	Thread Plug Diameters				GO			NOT GO	All		
	Nominal Range, Inclusive		Decimal Range		7 TPI and Coarser	Finer than 7 TPI and Coarser Than 16 TPI	16 TPI and Finer	All Pitches	All Pitches		
	From	To	Above	To and Including	*B*				*D*	*F*	*H*
7	8	8 1/2	8.010	8.510	2 1/4	1 1/2	1	1	6 1/2	5 1/4	4
7	8 1/2	9	8.510	9.010	2 1/4	1 1/2	1	1	6 15/16	5 5/8	4 3/8
7	9	9 1/2	9.010	9.510	2 1/4	1 1/2	1	1	7 3/8	6	4 3/4
7	9 1/2	10	9.510	10.010	2 1/4	1 1/2	1	1	7 13/16	6 1/2	5 1/8
7	10	10 1/2	10.010	10.510	2 1/4	1 1/2	1	1	8 1/4	7	5 1/2
7	10 1/2	11	10.510	11.010	2 1/4	1 1/2	1	1	8 11/16	7 1/2	5 7/8
7	11	11 1/2	11.010	11.510	2 1/4	1 1/2	1	1	9 1/8	8	6 1/4
7	11 1/2	12	11.510	12.010	2 1/4	1 1/2	1	1	9 9/16	8 1/2	6 5/8

GENERAL NOTE: All dimensions are in inches.

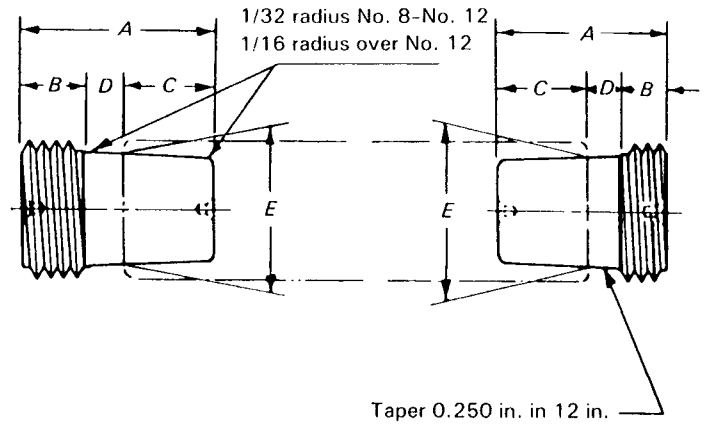
NOTE:
(1) Two required per gage.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS



No. 0 to No. 6, Inclusive



No. 8 to 1-1/2 in., Inclusive

TABLE 22 FINE-PITCH INSTRUMENT THREAD PLUG GAGING MEMBERS, TAPER LOCK DESIGN — RANGE NO. 0 to 1½ IN., INCLUSIVE

Handle Size No.	Thread Plug Diameters				TPI Finer Than	General Dimensions											
	Nominal Range, No. or in., Inclusive		Decimal Range			GO						NOT GO					
										E						E	
	From	To	Above	To and Including		A	B	C	D	Min.	Max.	A	B	C	D	Min.	Max.
000	No. 0	No. 3	0.059	0.105	80	7/8	3/16	1/2	3/16	0.125	0.126	13/16	1/8	1/2	3/16	0.125	0.126
00	No. 4	No. 6	.105	.150	60	31/32	7/32	9/16	3/16	.155	.156	29/32	5/32	9/16	3/16	.155	.156
0	No. 8	No. 12	.150	.230	48	15/32	9/32	5/8	1/4	.180	.181	13/32	7/32	5/8	1/4	.180	.181
1	1/4	5/16	.230	.365	40	15/16	5/16	3/4	1/4	.239	.240	1 1/4	1/4	3/4	1/4	.239	.240
2	3/8	1/2	.365	.510	36	1 3/8	3/8	3/4	1/4	.309	.310	1 5/16	5/16	3/4	1/4	.309	.310
3	9/16	3/4	.510	.825	32	1 1/2	1/2	3/4	1/4	.408	.410	1 3/8	3/8	3/4	1/4	.408	.410
4	7/8	1 1/8	.825	1.135	28	1 13/16	5/8	7/8	5/16	.608	.610	1 5/8	7/16	7/8	5/16	.608	.610
5	1 1/4	1 1/2	1.135	1.510	28	2 1/8	3/4	1	3/8	.808	.810	1 7/8	1/2	1	3/8	.808	.810

GENERAL NOTE: All dimensions are in inches.

Not for Resale

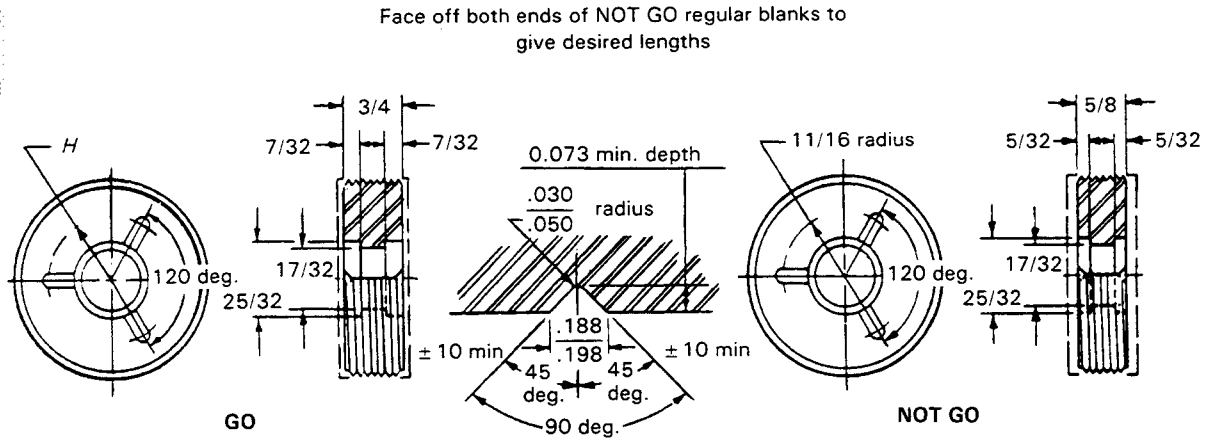


TABLE 23 FINE-PITCH INSTRUMENT THREAD PLUG GAGING MEMBERS, TRILOCK DESIGN — RANGE ABOVE 1½ IN. TO AND INCLUDING 2½ IN.

Handle Size No.	Thread Plug Diameters, in.				TPI Finer Than	*H*
	Nominal Range, Inclusive		Decimal Range			
	From	To	Above	To and Including		
5½	1½	2	1.510	2.010	28	9/16
6	2	2½	2.010	2.510	28	5/8

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

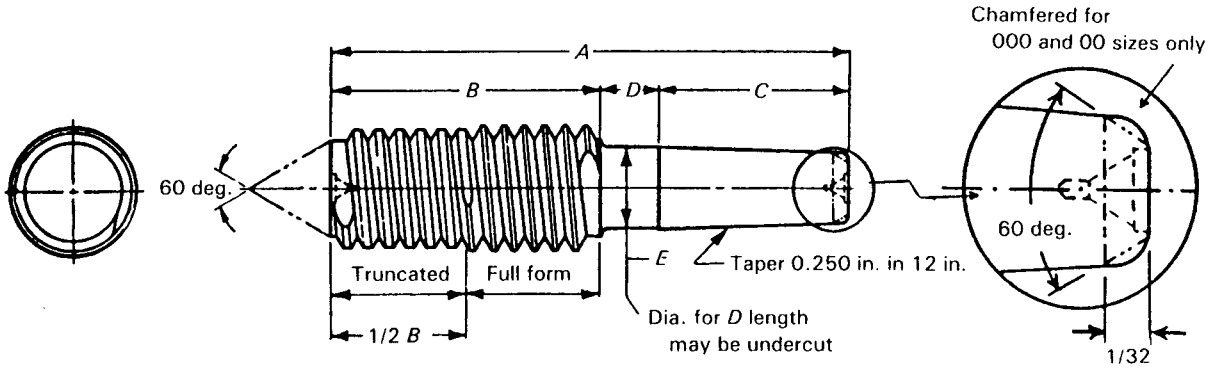


TABLE 24 THREAD-SETTING PLUG GAGING MEMBERS, TRUNCATED TYPE — RANGE NO. 0 TO 1½ IN., INCLUSIVE

Handle Size No.	Thread Diameters				General Dimensions									
	Nominal Range, No. or in., Inclusive		Decimal Range		For Thin Ring		For Thick Ring		For Fine-Pitch Instrument Thread Ring				E	
	From	To	Above	To and Including	A	B	A	B	A	B	C	D	Min.	Max.
000	No. 0	No. 2	.059	.090	29/32	7/32	. . .	. . .	. . .	. . .	1/2	3/16	.125	.126
000	No. 3	No. 3	.090	.105	1 1/16	3/8	. . .	. . .	. . .	. . .	1/2	3/16	.125	.126
00	No. 4	No. 6	.105	.150	1 1/8	3/8	. . .	. . .	. . .	. . .	9/16	3/16	.155	.156
0	No. 8	No. 12	.150	.230	1 9/32	13/32	. . .	. . .	. . .	. . .	5/8	1/4	.180	.181
1	1/4	1 5/16	.230	.365	1 3/4	3/4	. . .	. . .	1 9/16	9/16	3/4	1/4	.239	.240
2	3/8	1/2	.365	.510	2	1	. . .	. . .	1 11/16	11/16	3/4	1/4	.309	.310
3	9/16	3/4	.510	.825	2 1/4	1 1/4	2 7/8	1 7/8	2	1	3/4	1/4	.408	.410
4	7/8	1 1/8	.825	1.135	2 11/16	1 1/2	3 5/16	2 1/8	2 5/16	1 1/8	7/8	5/16	.608	.610
5	1 1/4	1 1/2	1.135	1.510	3	1 5/8	3 3/4	2 3/8	2 11/16	1 5/16	1	3/8	.808	.810

GENERAL NOTES:
(a) All dimensions are in inches.
(b) For full-form setting plugs, use GO thread plug gaging members (see Tables 16 and 18). For fine-pitch instrument threads, see Table 22.

Not for Resale

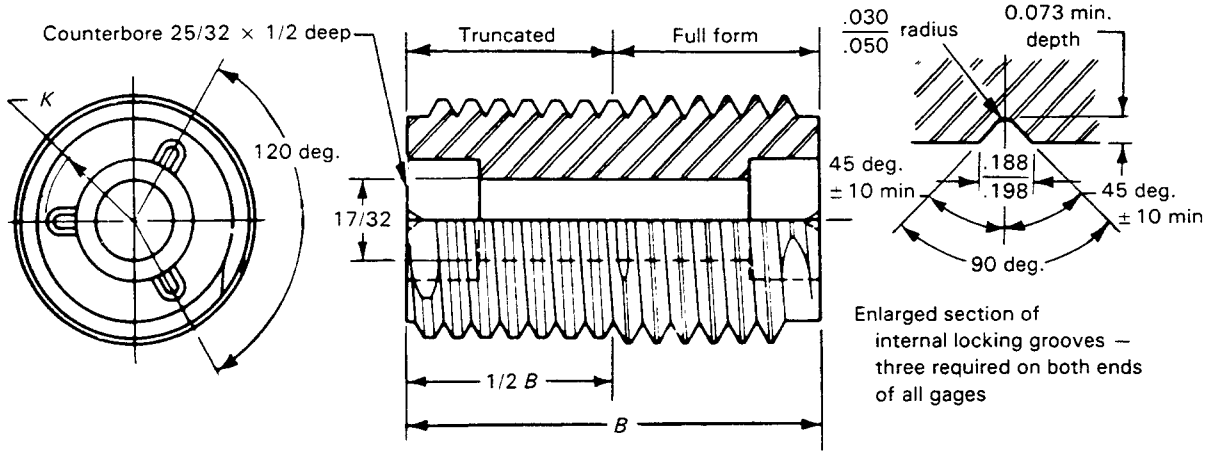


TABLE 25 THREAD-SETTING PLUG GAGING MEMBERS, TRUNCATED TYPE — RANGE ABOVE 1½ IN. TO AND INCLUDING 2½ IN.

Handle Size No.	Thread Diameters				*K* (Radius)	*B*		
	Nominal Range		Decimal Range			For Thin Ring	For Thick Ring	For Fine-Pitch Instrument Thread Ring
	From	To	Above	To and Including				
5½	1½	2	1.510	2.010	9/16	1 7/8	2 7/8	1 5/16
6	2	2½	2.010	2.510	5/8	2	3	1 7/16

GENERAL NOTES:
(a) All dimensions are in inches.
(b) For full-form setting plug, use GO thread plug gaging members (see Table 19). For fine-pitch instrument threads, see Table 23.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

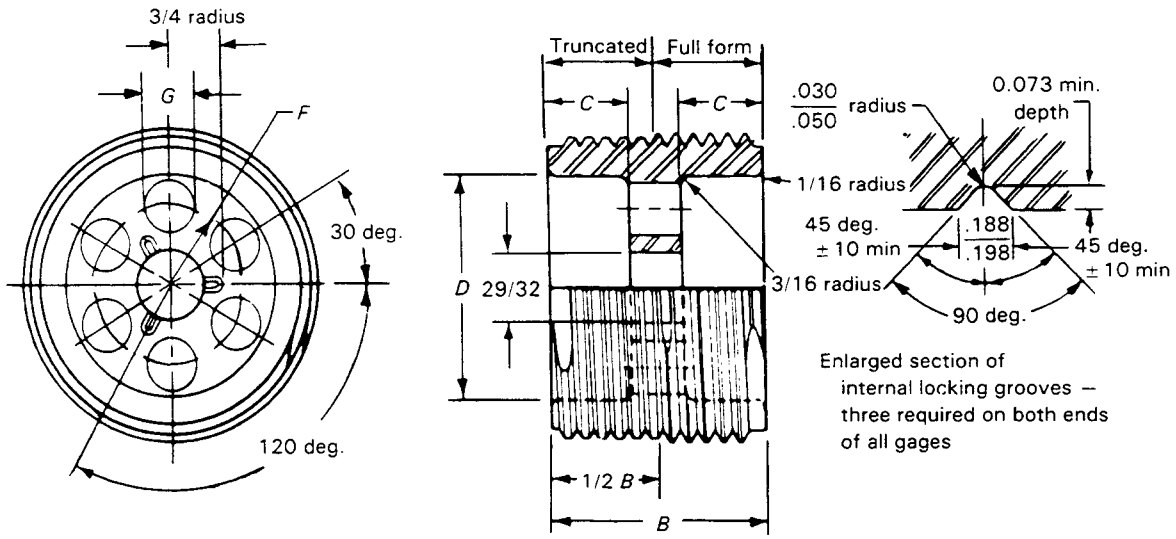


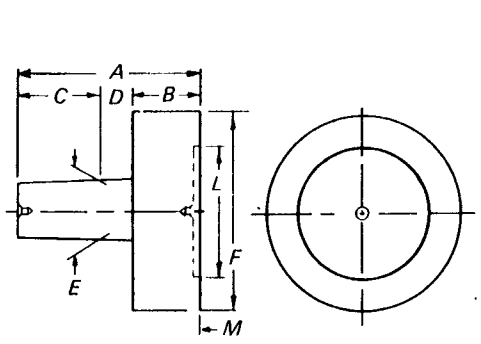
TABLE 26 THREAD-SETTING PLUG GAGING MEMBERS, TRUNCATED TYPE — RANGE ABOVE 2½ IN. TO AND INCLUDING 6½ IN.

Handle Size No.	Thread Diameters				General Dimensions						
	Nominal Range		Decimal Range		For Thin Ring		For Thick Ring				
	From	To	Above	To and Including	*B*	*C*	*B*	*C*	*D*	*F* (Radius)	*G*
7	2½	3	2.510	3.010	2	5/8	3⅛	11/16	1⅞	. . .	. . .
7	3	3½	3.010	3.510	2	5/8	3⅛	11/16	2¼	. . .	. . .
7	3½	4	3.510	4.010	2⅛	11/16	3¼	¾	2⅝	. . .	. . .
7	4	4½	4.010	4.510	2⅛	11/16	3¼	¾	3	. . .	. . .
7	4½	5	4.510	5.010	2⅛	11/16	3¼	¾	3 7/16	. . .	. . .
7	5	5½	5.010	5.510	2⅛	11/16	3¼	¾	3⅞	. . .	. . .
7	5½	6	5.510	6.010	2⅛	11/16	3¼	¾	4 5/16	1⅜	1
7	6	6½	6.010	6.510	2⅛	11/16	3¼	¾	4¾	1½	1⅛

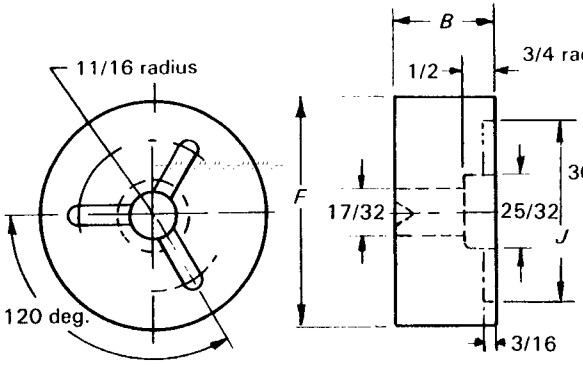
GENERAL NOTES:
(a) All dimensions are in inches.
(b) For full-form setting plug, use GO thread plug gaging members (see Table 20).
(c) Truncated setting plug blanks for thick rings require handle screw no. 2 having 2¾ in. length under the head. See General Note to Table 9.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

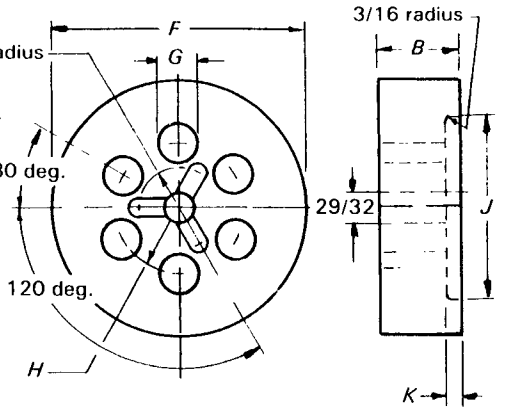
Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS



Taper Lock
1/16 in.–2 in.



Trilock
2-1/2 in. and 3 in. [Note (1)]



Trilock
3-1/2 in.–6 in., inclusive
[Notes (1), (2)]

TABLE 27 TAPER PIPE-THREAD PLUG GAGING MEMBERS (*L*-1) — RANGE 1/16 IN. TO AND INCLUDING 6 IN.

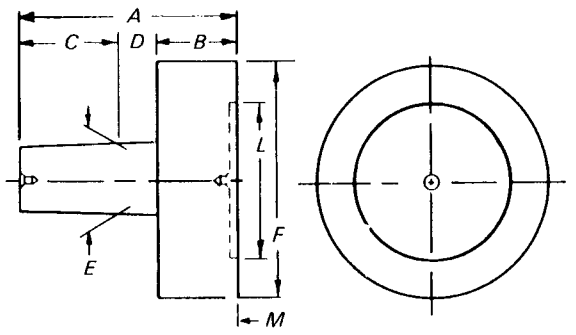
Nominal Pipe Size	Type Blank	Handle Size No.	General Dimensions												
			A	*B*	*C*	*D*	*E* Min.	*E* Max.	*F*	*G*	*H*	*J*	*K*	*L*	*M* Min.
1/16	Taper lock	1	1.300	0.300	3/4	1/4	0.239	0.240	3/8	. . .	. . .	. . .	. . .	. . .	. . .
1/8		2	1.310	.310	3/4	1/4	.309	.310	7/16	. . .	. . .	. . .	. . .	3/16	1/16
1/4		3	1.450	.450	3/4	1/4	.408	.410	9/16	. . .	. . .	. . .	. . .	7/32	1/16
3/8		3	1.460	.460	3/4	1/4	.408	.410	11/16	. . .	. . .	. . .	. . .	1/4	1/16
1/2		4	1.768	.580	7/8	5/16	.608	.610	7/8	. . .	. . .	. . .	. . .	5/16	1/16
3/4		4	1.788	.600	7/8	5/16	.608	.610	1 1/16	. . .	. . .	. . .	. . .	1/2	1/16
1		5	2.115	.740	1	3/8	.808	.810	1 3/8	. . .	. . .	. . .	. . .	5/8	1/16
1 1/4		5	2.145	.770	1	3/8	.808	.810	1 11/16	. . .	. . .	. . .	. . .	1	1/16
1 1/2		5	2.165	.790	1	3/8	.808	.810	1 15/16	. . .	. . .	. . .	. . .	1 1/4	1/16
2		5	2.205	.830	1	3/8	.808	.810	2 7/16	. . .	. . .	. . .	. . .	1 5/8	1/16
2 1/2	Trilock	6	. . .	1.210	. . .	. . .	. . .	. . .	3	. . .	. . .	2	. . .	. . .	. . .
3		6	. . .	1.300	. . .	. . .	. . .	. . .	3 5/8	. . .	. . .	2 1/2	. . .	. . .	. . .
3 1/2		7	. . .	1.350	. . .	. . .	. . .	. . .	4 1/8	. . .	. . .	2 5/8	9/16	. . .	. . .
4		7	. . .	1.425	. . .	. . .	. . .	. . .	4 5/8	. . .	. . .	3	3/4	. . .	. . .
5		7	. . .	1.550	. . .	. . .	. . .	. . .	5 11/16	. . .	. . .	4 5/16	3/4	. . .	. . .
6		7	. . .	1.700	. . .	. . .	. . .	. . .	6 3/4	1 1/4	1 5/8	5 1/4	3/4	. . .	. . .

GENERAL NOTE: All sizes and dimensions are in inches.

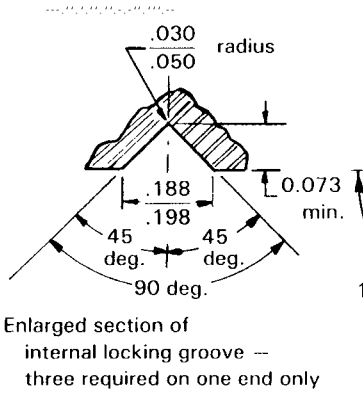
NOTES:
(1) Locking grooves on one side only on sizes 2 1/2 through 6.
(2) Without holes, *G* — 3 1/2 in. only
— 4 in. only
— 5 in. only

Not for Resale

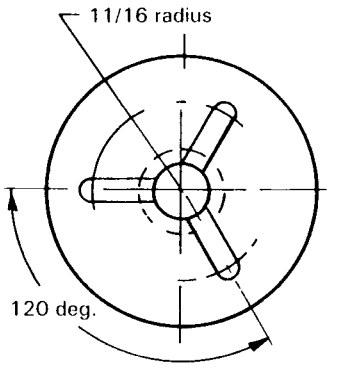
Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

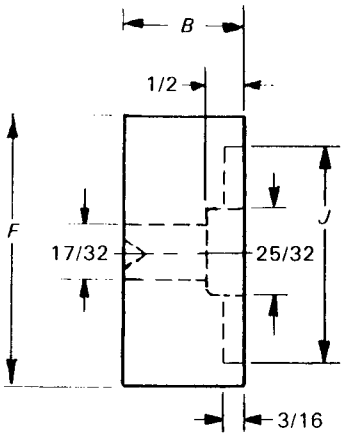


Taper Lock
1/16 in.–2 in.



Enlarged section of
internal locking groove —
three required on one end only





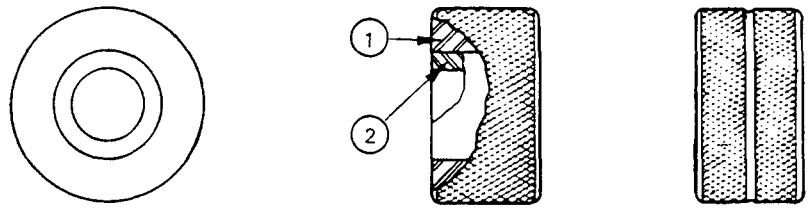
Trilock
2-1/2 in. and 3 in.

TABLE 28 TAPER PIPE-THREAD PLUG GAGING MEMBERS FOR *L*-3 AND MINOR DIAMETER CHECK (6 STEP)

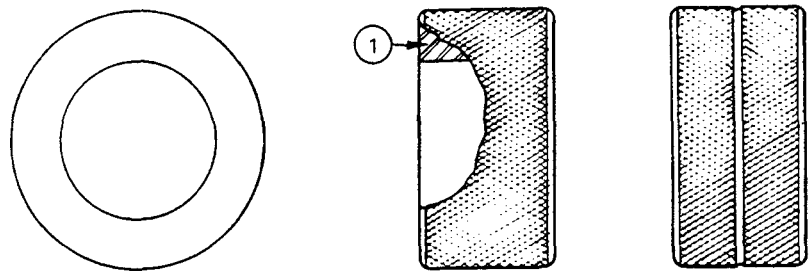
Nominal Pipe Size	Type Blank	Handle Size No.	General Dimensions									
							E					
			A	*B*	*C*	*D*	Min.	Max.	*F*	*J*	*L*	*M* Min.
1/16	Taper lock	1	1.420	0.420	3/4	1/4	0.239	0.240	3/8	. . .	. . .	. . .
1/8		2	1.460	.460	3/4	1/4	.309	.310	7/16	. . .	3/16	1/16
1/4		3	1.550	.550	3/4	1/4	.408	.410	9/16	. . .	7/32	1/16
3/8		3	1.620	.620	3/4	1/4	.408	.410	11/16	. . .	1/4	1/16
1/2		4	1.928	.740	7/8	5/16	.608	.610	7/8	. . .	5/16	1/16
3/4	Taper lock	4	1.968	.780	7/8	5/16	.608	.610	1 1/16	. . .	1/2	1/16
1		5	2.315	.940	1	3/8	.808	.810	1 3/8	. . .	5/8	1/16
1 1/4		5	2.315	.940	1	3/8	.808	.810	1 11/16	. . .	1	1/16
1 1/2		5	2.315	.940	1	3/8	.808	.810	1 15/16	. . .	1 1/4	1/16
2		5	2.315	.940	1	3/8	.808	.810	2 3/8	. . .	1 5/8	1/16
2 1/2	Trilock	6	. . .	1.580	. . .	. . .	. . .	. . .	2 15/16	2	. . .	. . .
3 1/2		6	. . .	1.580	. . .	. . .	. . .	. . .	3 1/2	2 1/2	. . .	. . .

GENERAL NOTES:
(a) All sizes and dimensions are in inches.
(b) Locking grooves on one side only for sizes 2 1/2 and 3.

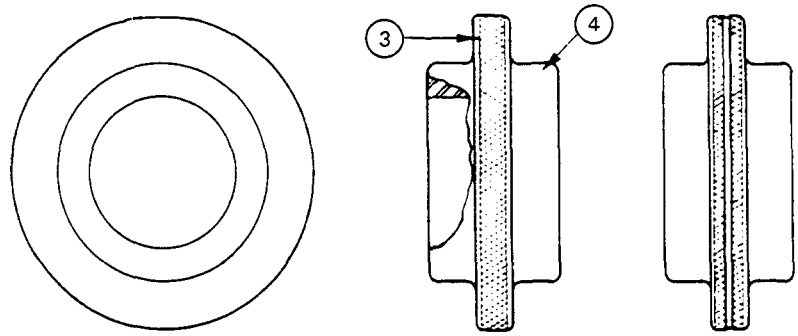
Not for Resale



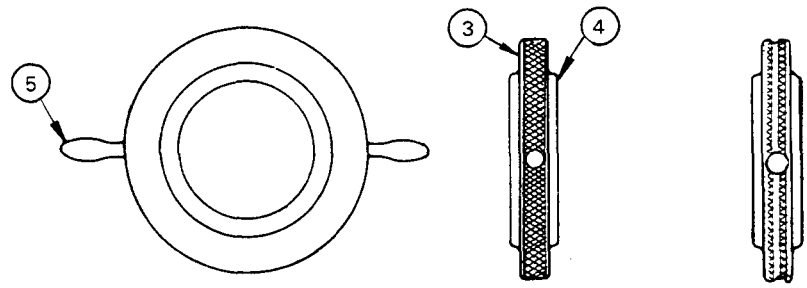
Range — above 0.010 in. to and including 0.510 in. (solid design shown below is optional)



Range — above 0.510 in. to and including 1.510 in. (optional above 0.010 in. to and including 0.510 in.)



Range — above 1.510 in. to and including 5.510 in.



Range — above 5.510 in. to and including 12.260 in.

(1) Body
(2) Bushing
(3) Flange
(4) Hub
(5) Handle and threaded holes are optional

FIG. 4 PLAIN RING GAGES — DETAILS OF CONSTRUCTION

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

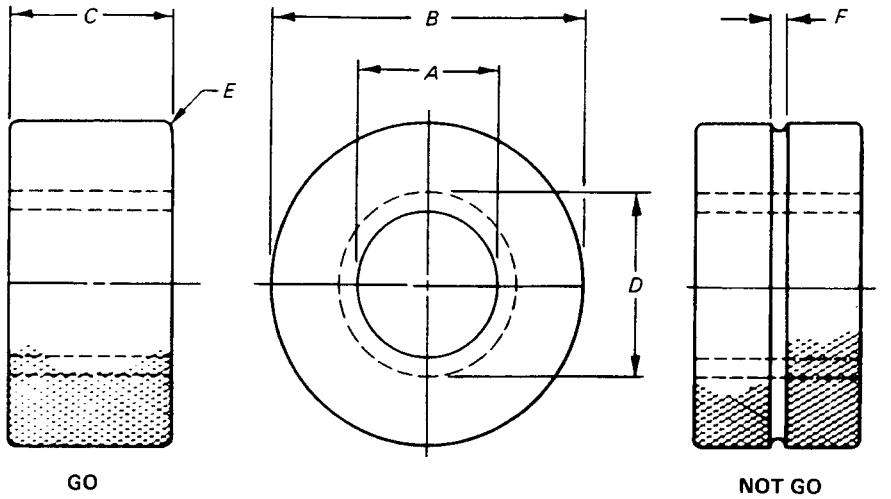


TABLE 29 PLAIN RING GAGES — RANGE ABOVE 0.010 IN. TO AND INCLUDING 1.510 IN.

Ring Size No.	Range, *A*		General Dimensions					
	Above	To and Including	Outside Diameter, *B*	Thickness, *C*	Bushing Diameter [Note (1)], *D*	Radius, *E*	NOT GO Groove Width, *F*	Length of Bushing
000	0.010	0.040	15/16	1/16 (4)	3/8	1/32	1/32	(1) (2)
00	0.040	0.150	15/16	3/16	3/8	1/32	1/32	(1) (2)
0	.150	.230	15/16	3/8	7/16	1/32	1/16	(1) (2)
1	.230	.365	1 1/8	9/16	9/16	1/16	3/32	(1) (2)
2	.365	.510	1 3/8	3/4	3/4	1/16	3/32	(1) (2)
3	.510	.825	1 3/4	15/16	(3)	3/32	3/32	(3)
4	.825	1.135	2 1/8	1 1/8	(3)	3/32	3/32	(3)
5	1.135	1.510	2 1/2	1 5/16	(3)	3/32	3/32	(3)

GENERAL NOTE: All dimensions are in inches.

NOTES:
(1) Ring gages of sizes 000, 00, 0, 1, and 2 may be of the bushing type or of the solid type, at the option of the manufacturer.
(2) Bushings may be 1/16 in. longer than ring thickness, but are ground flush after hole is finished.
(3) Sizes 3, 4, and 5 are solid.
(4) Thickness of 1/16 in. on 000 blank is minimum.

3.4 Plain Ring Gage Blanks

(*a*) The use of the solid ring gage design for size control being well established, the Committee's work on plain ring gages was concerned chiefly with matters of proportion. In the smaller sizes of plain ring gages, a hardened bushing may be pressed into a soft gage body, in place of the one-piece ring gage. This design is optional in the range above 0.010 in. to and including 0.510 in. However, the single-piece gage may be employed in this range, and it is standard in all cases above 0.510 in. Gages in sizes above 1.510 in. are flanged in order to eliminate unnecessary weight and to facilitate handling. General details of construction are shown in Fig. 4 (p. 38), and dimensions are given in Tables 29 and 30 (pp. 39–40).

(*b*) No dimensional difference exists between GO and NOT GO blanks of identical size range and service class, but an annular groove is provided in the periphery of NOT GO blanks as a means of identification.

(*c*) Gages in sizes above 5.510 in. may be provided with two .500-13 UNC-2B tapped holes, in the web, 180 deg. apart, to accommodate No. 7 ball handles.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

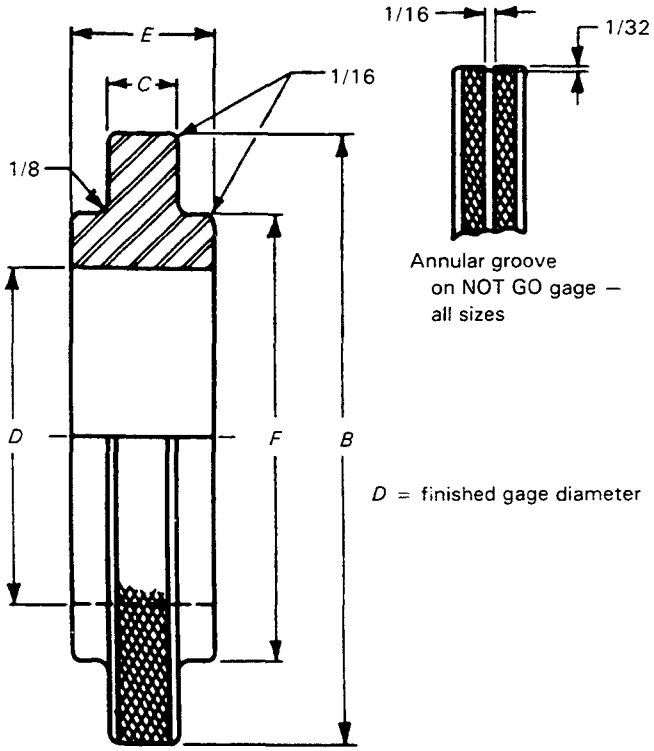


TABLE 30 PLAIN RING GAGES — RANGE ABOVE 1.510 IN. TO AND INCLUDING 12.260 IN.

Ring Size No.	A (Range for D)		Inspection, Working, Ring Gages			
	Above	To and Including	B	C	E	F
6	1.510	2.010	4	1/2	1 1/2	2 7/8
7	2.010	2.510	4 1/2	9/16	1 1/2	3 3/8
8	2.510	3.010	5	5/8	1 1/2	4
9	3.010	3.510	5 1/2	11/16	1 1/2	4 1/2
10	3.510	4.010	6 1/4	3/4	1 1/2	5 1/8
11	4.010	4.760	7 1/4	7/8	1 1/2	5 7/8
12	4.760	5.510	8 1/4	1	1 1/2	6 5/8
13	5.510	6.260	9 1/4	1	1 1/2	7 3/8
14	6.260	7.010	10 1/4	1	1 1/2	8 1/8
15	7.010	7.760	11 1/4	1	1 1/2	8 7/8
16	7.760	8.510	12 1/4	1	1 1/2	9 5/8
17	8.510	9.260	13 1/4	1	1 1/2	10 3/8
18	9.260	10.010	14 1/4	1	1 1/2	11 1/8
19	10.010	10.760	15 1/4	1	1 1/2	11 7/8
20	10.760	11.510	16 1/4	1	1 1/2	12 5/8
21	11.510	12.260	17 1/4	1	1 1/2	13 3/8

GENERAL NOTE: All dimensions are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

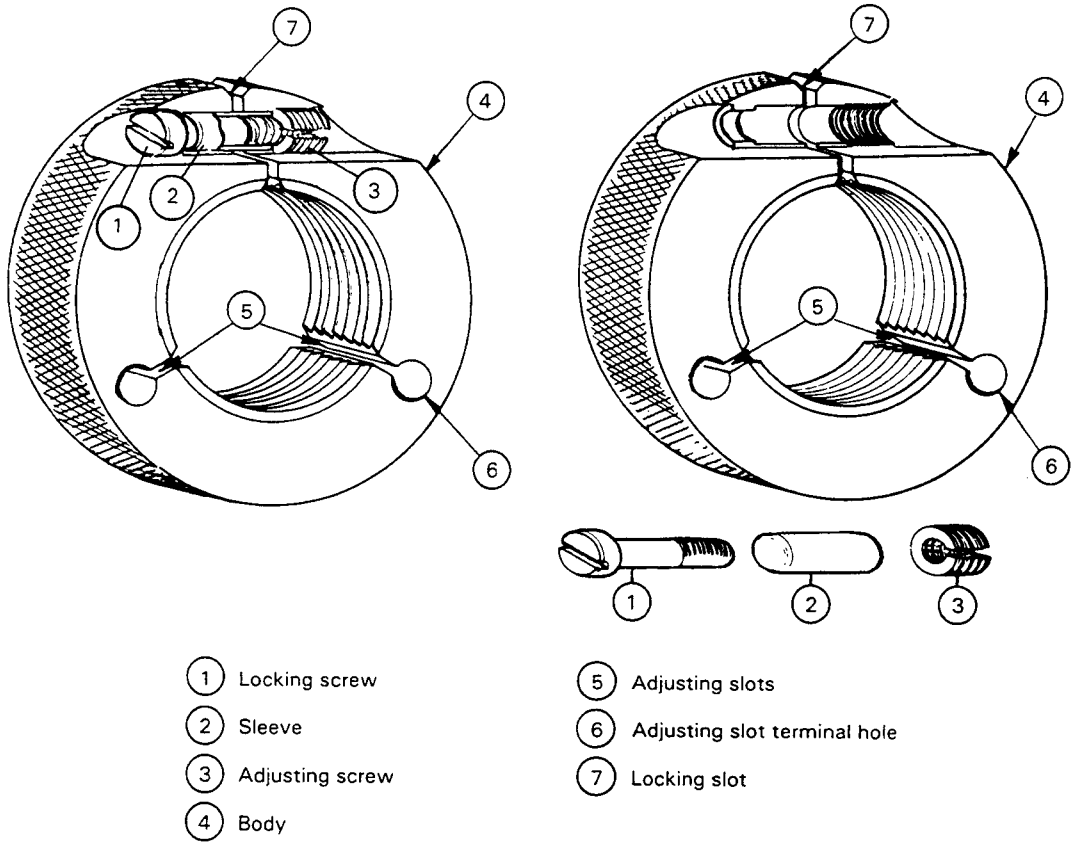


FIG. 5 THREAD RING GAGE LOCKING DEVICE, DETAILS OF CONSTRUCTION — RANGE 1 IN. TO 5½ IN., INCLUSIVE

3.5 Thread Ring Gage Blanks

(*a*) The Committee found universal accord as to the superiority of the adjustable thread ring gage over the solid type, with the result that all American Gage Design Standard thread ring gage blanks are equipped with an effective device for adjusting and locking the gage in the manufacturing or resizing processes. Of the many locking devices considered, the single-unit locking device was finally adopted as standard, as it permits a minimum diameter of blank for a given size range and provides a simple adjustment and positive lock without introducing, into the gage body, any mechanical stresses that might tend to create distortion after setting. Referring to Fig. 5 above, the construction and operation of this device are as follows.

(*b*) The adjusting screw (3) is threaded externally and internally and split longitudinally. Turning this screw to the right exerts pressure in the sleeve (2) against the shoulder in the left-hand side of the gage here shown, thus spreading the ring. Once the ring has

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

been properly adjusted by means of the adjusting screw (3), the adjustment is locked by tightening locking screw (1). The tightening of the locking screw (1) exerts a pull between the shoulder, immediately under its head, and the internal threads of the adjusting screw (3), which causes the adjusting screw to expand into the threads in the wall of the gage, the thrust of this action being taken up longitudinally by the sleeve (2). Therefore, the clamping is accomplished by expansion of the adjusting screw equally in all directions and not by the application of any eccentric forces that tend to distort the gage or upset the adjustment. The locking pressure, it is seen, is taken up centrally in the locking screw itself as the reacting support is directly under the head of the locking screw in the form of shoulder in the gage. The sleeve (2), being accurately fitted, serves as a large dowel to maintain the alignment of the gage.

(*c*) Dimensions for thread ring gage blanks in the range from No. 0 to 12¼ in., inclusive, and for parts for the thread ring gage locking device, are given in Tables 31 through 38 (pp. 46–56).

(*d*) Five types of thread ring gage blanks for straight threads have been provided as illustrated in Figs. 6 and 7 (pp. 44–45), namely:

(*1*) a thin flat disk type with one adjusting slot (two slots optional) for all diameters and pitches, both GO and NOT GO Nos. 0 to 6, inclusive;

(*2*) a thin flat disk type with two adjusting slots for the following:

(*a*) all diameters and pitches GO and NOT GO above No. 6 to and including ½ in.

(*b*) fine pitches[1] GO and NOT GO above ½ in. to and including 4¾ in.

(*c*) coarse pitches NOT GO only above ½ in. to and including 4¾ in.

(*3*) a thick flanged type with two adjusting slots for all GO coarse pitch gages above ½ in. to and including 4¾ in.;

(*4*) a thin flat type provided with ball handles and a plurality of adjusting slots for all fine pitch GO gages and all NOT GO gages in the range above 4.760 in. to and including 12.260 in.;

(*5*) a thick flanged type provided with ball handles and a plurality of adjusting slots for all coarse pitch GO gages in the range from 4.760 in. to and including 12.260 in.

[1]Specific information as to the meaning of the terms fine pitches and coarse pitches, as used above, is given in the General Note to Table 32 (p. 49).

(*e*) For thread setting and master ring gages, a solid thin flat disk type and a solid thick flanged type are provided in Table 39 (pp. 58–59).

(*f*) For taper pipe threads a solid flanged type has been provided, as shown in Table 40 (p. 60) for nominal pipe sizes from ⅛ in. to 8 in., inclusive.

3.6 Taper Plug and Ring Gages for Checking Taper Lock Handles and Gaging Members

(*a*) It has been deemed advisable to formulate specifications for a complete set of finished gages for inspecting the taper shanks and handles of gages of taper lock design.

(*b*) A complete set consists of a taper plug, a taper ring, and a taper check plug for each size range. General details of construction will be apparent from Table 41 (p. 62).

(*c*) The taper limits established by the American National Standards Committee B47 for taper lock handles and shanks may be readily maintained by the use of gages shown in Table 41 (p. 62), in which the taper plug gage is of the single-end limit type, with a ground step representing the minimum size of hole. Equally satisfactory results may be secured by using a single-end taper plug gage, on which a scribed line represents the minimum size of hole and the shoulder of the gage represents the maximum size of hole. Both designs are sanctioned by the American National Standards Committee B47.

3.7 Involute, Serrated, and Straight-Sided Spline Plug and Ring Gage Blanks

The development of standard gage blanks, required for a standard gaging system for involute, serrated, and straight-sided splines, was requested of the Committee. A system of such blanks is presented herein.

(*a*) The series of blanks for producing gages used in the gaging of internal splines comprises the following.

Spline plug gages and relieved type spline plug gages, with integral handles, for sizes to and including 2 in.

Spline gaging members, pilot type spline gaging members, and pilot relieved type spline gaging members, with handles for same, for sizes above 1.5 in. to and including 8 in.

Spline tapered tooth plug gages, with either integral or detachable handles, for sizes to and including 8 in.

Plug gage stands

Spline tapered tooth plug gages for sizes to and including 8 in.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

(*b*) The series of blanks for producing gages used in the gaging of external splines comprises the following.

Spline ring gages and pilot type spline ring gages for sizes to and including 8 in.
Prong type spline relation ring gages in two models, one for space widths greater than 0.070 in. and one for widths of 0.070 in. or less.
Double-end prong type spline alignment ring gages for sizes above 1 in. to and including 6 in.
Built-up double-end snap gages for tooth thicknesses to and including 0.750 in.

3.8 Machine Taper Plug and Ring Gage Blanks

(*a*) Taper plug and ring gages for standard machine tapers have been in use for many years. In response to demands for standard designs of gage blanks for Morse, B & S, Jarno, A.S.A., and Series Nos. 10 to 50 milling machine tapers, the Committee has designed gage blanks as follows:

Taper ring gages, with tang, 24 blanks
Taper plug gages, with tang, 20 blanks
Taper ring gages, without tang, 48 blanks
Taper plug gages, without tang, 37 blanks

(*b*) As useful information but not comprising an essential part of the standard for gage blanks, the finished dimensions of these gages are also tabulated.

(*c*) Brown & Sharpe tapers as listed in Tables 55 through 58 (pp. 75-85) are not used in all cases. Brown & Sharpe tapers in No. 4, 5, 7, 9, 10, and 11 sizes as used for milling machines, milling arbors, shank cutters, etc., have different plug depths and different diameters at the end of the sockets. No blank dimensions have been established for these but the essential finished dimensions for these sizes are as follows.

B&S Milling Machine Tapers

Taper No.	Plug Depth, *M*	Plugs, *K*, or Rings, *I*
4	1 1/4	.4023
5	1 3/4	.5232
7	3	.7254
9	4	1.0671
10	5 11/16	1.2893
11	6 3/4	1.5318

3.9 Plain Adjustable Snap Gages

(*a*) Five styles of adjustable snap gages have been provided, as illustrated in Figs. 10 and 11 (pp. 87-88), and as shown below.

Model A — employing four gaging pins
Model B — employing four gaging buttons, either square or round
Model C — employing two gaging buttons, either square or round, and single block anvil
Model MC — a miniature snap gage with two gaging buttons, either square or round, and a single block anvil
Model E — employing two gaging buttons, either square or round, and a single block anvil extending beyond the gaging buttons

(*b*) The frames of models A, B, and C have been so designed that common patterns can be used for all three. Frames are of the conventional C or semicircular type, of cast iron with solid web. Particular attention was given to weight, which approximated the average of former proprietary designs.

(*c*) The straight gaging pins are of circular cross section, an arcuate bevel being provided at the front edge where they first engage the work. The flanged gaging buttons are provided with either square or circular heads, the former being chamfered on their forward edges, and the latter being provided with an arcuate bevel where they first engage the work. The gap between GO and NOT GO has been kept to a minimum.

(*d*) A locking device was adopted that has stood the test of time — the three-piece type with two flats on the shank of the gaging button or pin, and a locking nut and locking bushing, each provided with a bevel flat.

The design adopted incorporates the following:

(*1*) a design of frame that has proved to be exceptionally rigid under severe tests;

(*2*) reduction of weight to as low a point as strength of materials permits;

(*3*) distribution of metal to assure a nice balance and feel;

(*4*) an effective and proved locking device;

(*5*) suitable construction of gaging pins, buttons, and anvils to give ample rigidity and maintain accuracy;

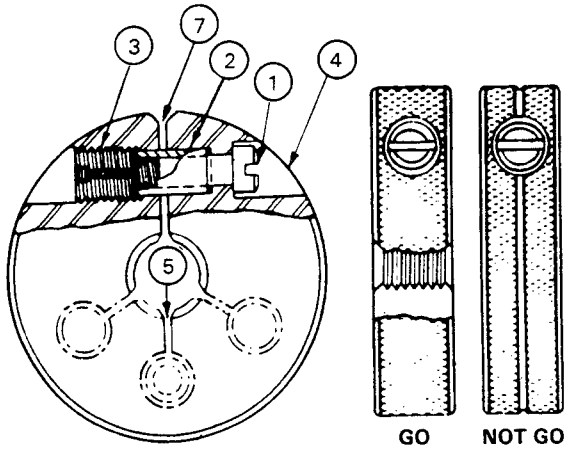
(*6*) ease and simplicity of adjustment;

(*7*) provision for sealing;

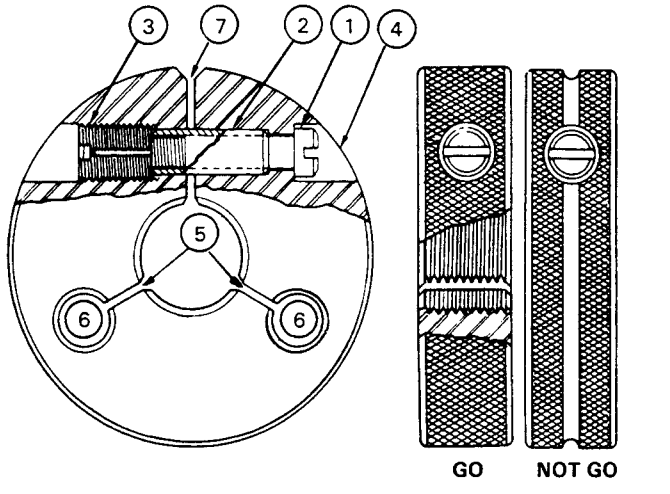
(*8*) careful selection of limits and tolerances to preserve accuracy and permit interchangeability.

(*e*) General details of construction are shown in Figs. 10 and 11 (pp. 87-88), and dimensions are given in Tables 60 through 72 (pp. 90-103), and Fig. 12 (p. 95).

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale



Range — 0.060 in. to and including 0.150 in., GO and NOT GO gages, all pitches. Two adjusting slots are optional with the gage manufacturer.

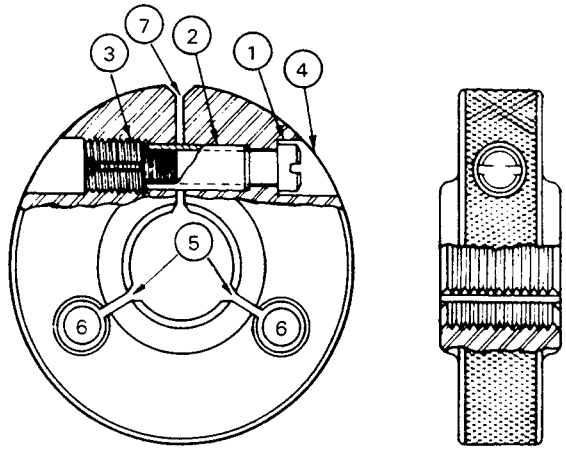


Range — above 0.150 in. to and including 0.510 in., GO and NOT GO gages, all pitches; 0.510 in. to and including 4.760 in. GO and NOT GO gages, fine pitches; 0.510 in. to and including 4.760 in., NOT GO gages only, coarse pitches.

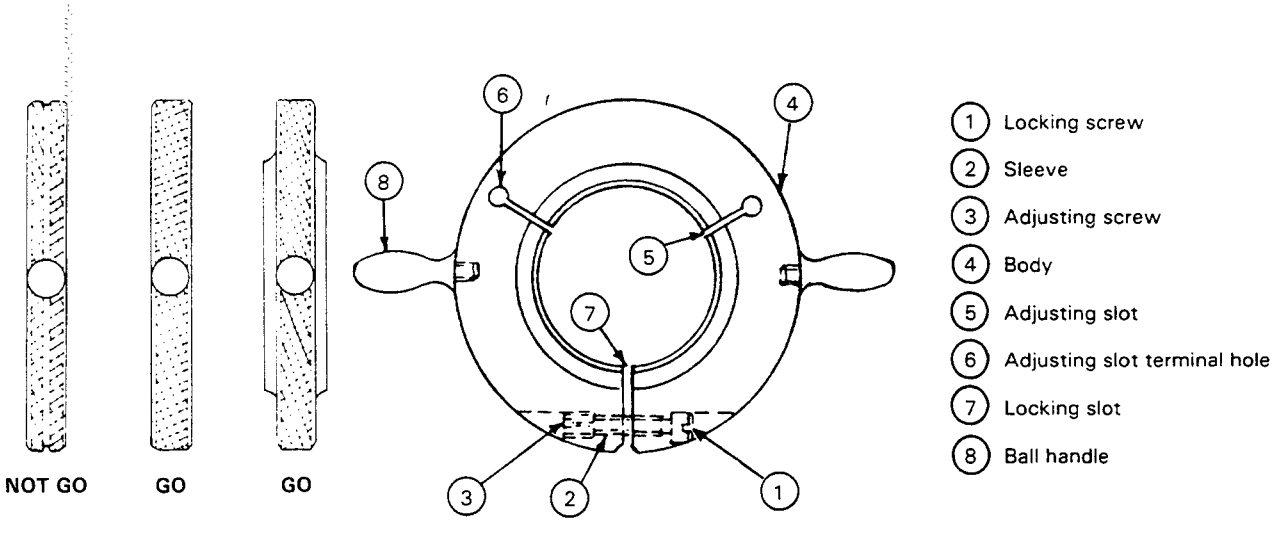
(1) Locking screw
(2) Sleeve
(3) Adjusting screw
(4) Body
(5) Adjusting slot
(6) Adjusting slot terminal hole
(7) Locking slot

FIG. 6 THREAD RING GAGES, DETAILS OF CONSTRUCTION — RANGE 0.060 IN. TO AND INCLUDING 4.760 IN.

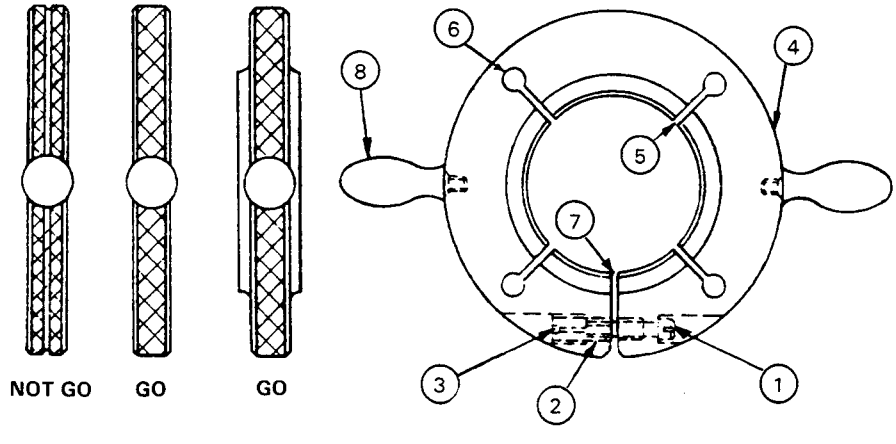
Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale



Range — above 0.510 in. to and including 4.760 in. GO gages only, coarse pitches



Range — above 4.760 in. to and including 8.510 in.



Range — above 8.510 in. to and inciuding 12.260 in.

GENERAL NOTE: Thick blank for coarse pitches, GO gages. Thin blank for fine pitches, GO gages and all NOT GO gages.

FIG. 7 THREAD RING GAGES, DETAILS OF CONSTRUCTION — RANGE ABOVE 0.510 IN. TO AND INCLUDING 12.260 IN.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

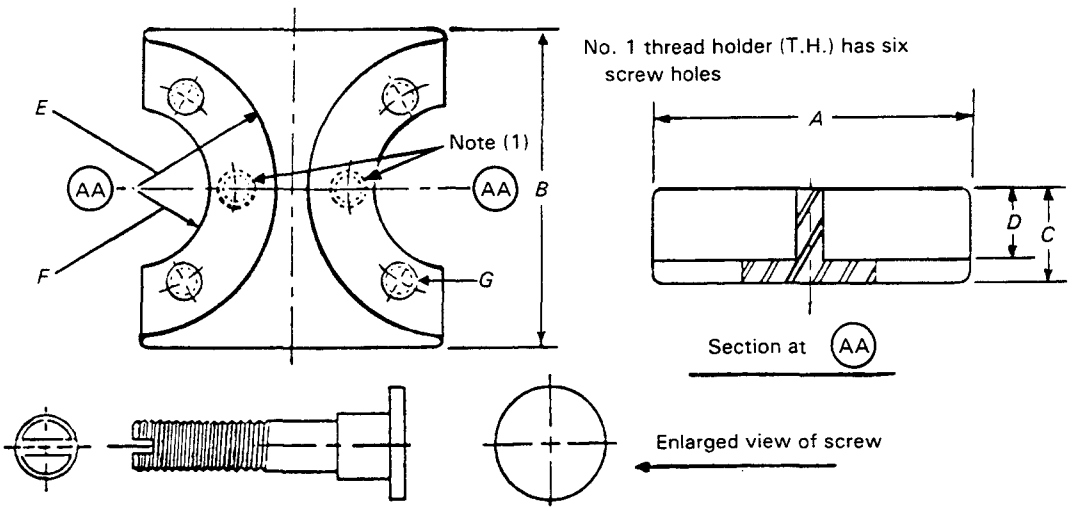


TABLE 31 HOLDERS FOR THREAD RING GAGES

Size No.	Range		General Dimensions						
	From	To and Including	*A*	*B*	*C*	*D*	*E*	*F*	*G*
1 T.H.	#0	#12	1 1/16	1 1/4	3/8	1/4	0.525 .530	5/32	.138-40 UNF-3B
2 T.H.	1/4	5/16	1 7/16	1 5/8	1/2	11/32	.7125 .7175	7/32	.164-36 UNF-3B
3 T.H.	3/8	1/2	1 13/16	2	5/8	7/16	.900 .905	5/16	.216-28 UNF-3B
4 T.H.	9/16	3/4	2 1/4	2 7/16	3/4	9/16	1.119 1.124	17/32	.250-28 UNF-3B
5 T.H.	7/8	1 1/8	2 11/16	2 7/8	7/8	11/16	1.338 1.343	3/4	.250-28 UNF-3B
6 T.H.	1 1/4	1 1/2	3 5/16	3 1/2	1	3/4	1.650 1.655	15/16	.3125-24 UNF-3B

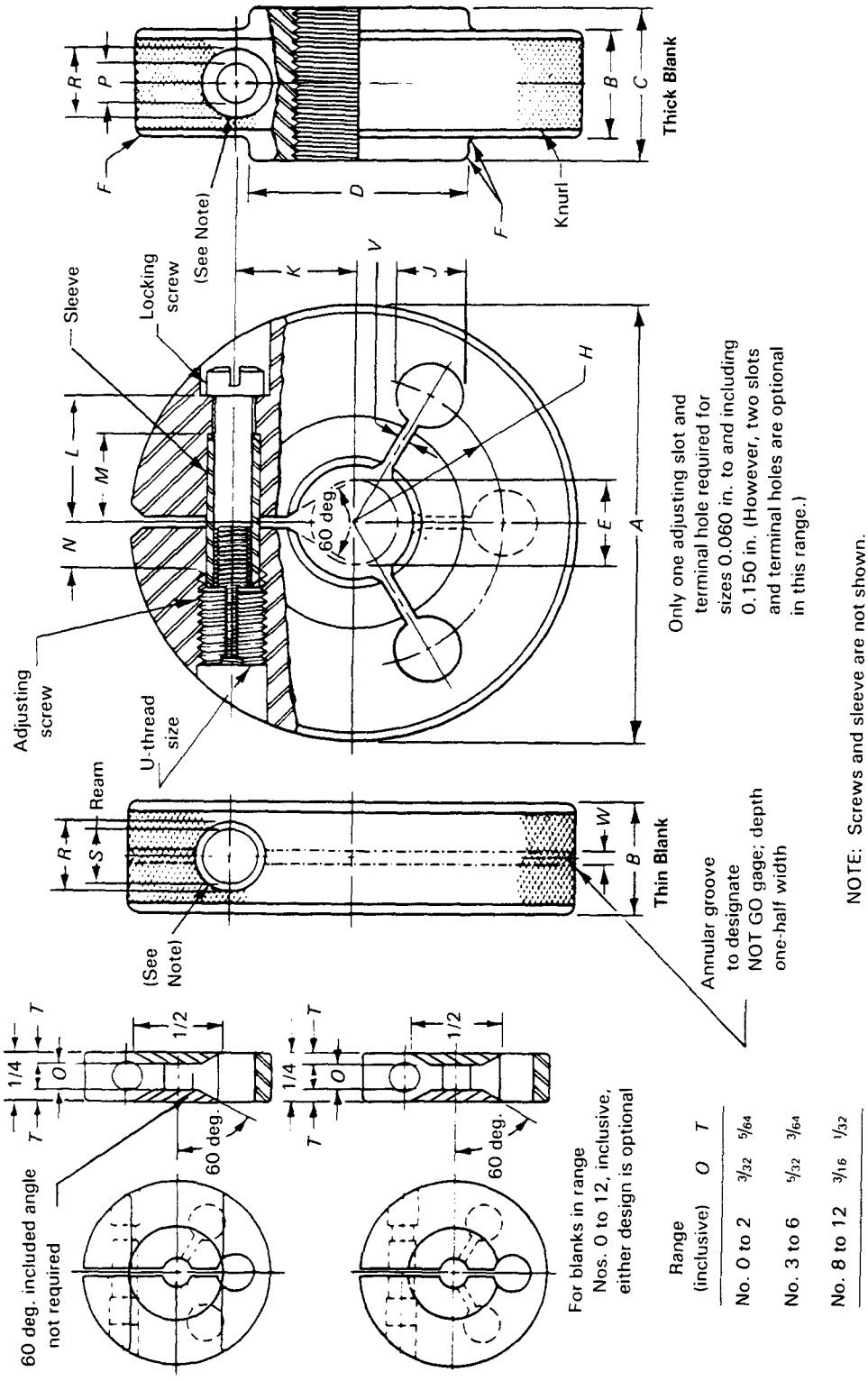
GENERAL NOTE: All dimensions except *G* are in inches.

NOTE:
(1) Holders and screws of slightly different design are considered acceptable as long as they hold the gages securely and without distortion.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Table 32 begins on next page.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale



NOTE: Screws and sleeve are not shown.

TABLE 32

Range (inclusive)	O	T
No. 0 to 2	3/32	5/64
No. 3 to 6	5/32	3/64
No. 8 to 12	3/16	1/32

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

TABLE 32 THREAD RING GAGES — RANGE NO. 0 TO AND INCLUDING 4¾ IN.; ALSO FINE-PITCH INSTRUMENT THREAD RING GAGES, NO. 0 TO AND INCLUDING NO. 12

Ring Assembly No.	Ring Size No.	Nominal Range, Inclusive, No. or in.	Decimal Range, Above and Including	General Dimensions																				
				A	B	C	D	E	F	H	J	K	L	M ±1/64	N ±1/64	Drill Size, P (No. or in.)	Drill Size, R	S Ream Min.	S Ream Max.	U Size	U Pitch Diameter Min.	U Pitch Diameter Max.	V	W
1	1-T	Nos. 0 to 6 (1)	0.059 .150	1	1/4	...	...	...	1/32	5/16	5/32	5/16	7/32	5/32	1/16	No. 41 (0.0960)	11/64 (0.1719)	0.1370	0.1373	.164-36	0.1400	0.1478	0.010 (2)	1/32
		Nos. 8 to 12 (1)	.150 .230	1	1/4	...	...	...	1/32	5/16	5/32	5/16	7/32	5/32	1/16	No. 41 (0.0960)	11/64 (0.1719)	.1370	.1373	.164-36	0.1460	.1478	1/64	1/32
2	2-T	1/4 - 5/16	.230 .365	1 3/8	11/32	...	...	5/32	1/32	7/16	3/16	3/8	11/32	1/4	1/8	No. 31 (0.1200)	7/32 (0.2187)	.1810	.1813	.216-28	.1928	.1950	1/32	1/16
3	3-T	3/8 - 1/2	.365 .510	1 3/4	7/16	...	...	3/16	3/64	19/32	1/4	15/32	1/2	3/8	3/16	No. 25 (0.1495)	17/64 (0.2656)	.2150	.2153	.250-28	.2268	.2290	1/32	3/32
4	4-T	9/16 - 3/4	.510 .825	2 3/16	9/16	3/4	1 1/16	11/32	1/16	3/4	5/16	11/16	17/32	13/32	7/32	No. 7 (0.2010)	21/64 (0.3281)	.2720	.2723	.3125-24	.2854	.2878	1/16	3/32
5	5-T	1/8 - 1 1/8	.825 1.135	2 5/8	11/16	15/16	1 1/2	9/16	1/16	31/32	5/16	7/8	17/32	13/32	9/32	No. 1 (0.2280)	25/64 (0.3906)	.3340	.3344	.375-24	.3479	.3503	1/16	3/32
6	6-T	1 1/4 - 1 1/2	1.135 1.510	3 1/4	3/4	1 1/8	1 7/8	27/32	1/16	1 3/16	3/8	1 1/8	5/8	7/16	5/16	17/64 (0.2656)	29/64 (0.4531)	.3890	.3894	.4375-20	.4050	.4076	1/16	3/32
6	7-T	1 5/8 - 2	1.510 2.010	3 3/4	13/16	1 1/4	2 3/8	1 3/16	3/32	1 7/16	3/8	1 3/8	5/8	7/16	5/16	17/64 (0.2656)	29/64 (0.4531)	.3890	.3894	.4375-20	.4050	.4076	1/16	1/8
7	8-T	2 1/8 - 2 1/2	2.010 2.510	4 1/2	7/8	1 5/16	2 7/8	1 19/32	3/32	1 3/4	7/16	1 11/16	13/16	9/16	7/16	21/64 (0.3281)	33/64 (0.5156)	.4510	.4515	.500-20	.4675	.4701	3/32	1/8
7	9-T	2 5/8 - 3	2.510 3.010	5	7/8	1 3/8	3 3/8	2	3/32	2	7/16	1 15/16	13/16	9/16	7/16	21/64 (0.3281)	33/64 (0.5156)	.4510	.4515	.500-20	.4675	.4701	3/32	1/8
7	10-T	3 1/8 - 3 1/2	3.010 3.510	5 1/2	15/16	1 7/16	3 7/8	2 7/16	3/32	2 7/32	7/16	2 3/16	13/16	9/16	7/16	21/64 (0.3281)	33/64 (0.5156)	.4510	.4515	.500-20	.4675	.4701	3/32	1/8
8	11-T	3 5/8 - 4	3.510 4.010	6 3/8	15/16	1 1/2	4 5/8	2 15/16	3/32	2 5/8	1/2	2 9/16	1	3/4	5/8	13/32 (0.4062)	41/64 (0.6406)	.5710	.5715	.625-18	.5889	.5919	3/32	1/8
8	12-T	4 1/8 - 4 3/4	4.010 4.760	7 1/4	1	1 1/2	5 3/8	3 3/8	3/32	3 1/32	1/2	3	1	3/4	5/8	13/32 (0.4062)	41/64 (0.6406)	.5710	.5715	.625-18	.5880	.5919	3/32	1/8

GENERAL NOTES:
(a) All dimensions are in inches.
(b) Thin gage blanks are to be used for all NOT GO thread ring gages. For GO thread ring gages, use thin or thick blanks as follows.

Diameter, in.	Thin Blank	Thick Blank
From No. 0 to 1/2, inclusive	All pitches	...
Above 1/2 to 1 1/8, inclusive	Pitches 12 TPI and finer except 9/16-12	Pitches coarser than 12 TPI
Above 1 1/8	Pitches 10 TPI and finer	Pitches coarser than 10 TPI

(c) Special thicker blanks are sometimes required for checking long lengths of engagement or exceptionally coarse pitch threads.
(d) Solid working thread ring gages are of similar standard thickness and furnished without adjustment feature. Outside diameter of solid ring blanks may be smaller to suit particular requirements. See Table 39 for solid setting and master thread ring gage blanks.

NOTES:
(1) Blanks for the range Nos. 0 to 12, inclusive, may be either counterbored or milled, as shown in illustration for Table 32.
(2) Approximate.

Not for Resale

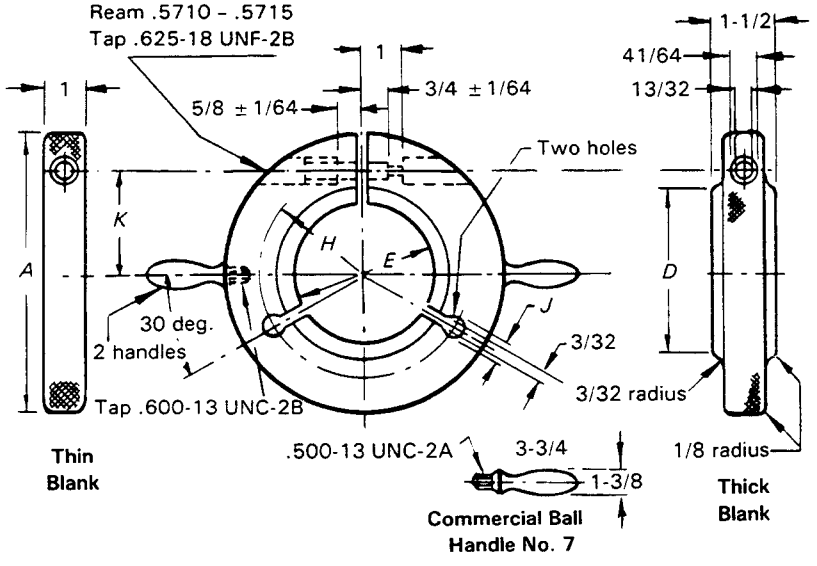


TABLE 33 THREAD RING GAGES — RANGE ABOVE 4.760 IN. TO AND INCLUDING 8.510 IN.

Ring Assembly No.	Ring Size No.	Nominal Range, Inclusive	Decimal Range		A	D	E	H	J	K
			Above	To and Including						
8	13-T	4 3/4–5 1/2	4.760	5.510	8 1/4	6 1/2	4	3 9/16	1/2	3 1/2
8	14-T	5 1/2–6 1/4	5.510	6.260	9 1/4	7 3/8	4 3/4	4 1/16	1/2	3 15/16
8	15-T	6 1/4–7	6.260	7.010	10 1/4	8 1/8	5 1/2	4 1/2	1/2	4 3/8
8	16-T	7–7 3/4	7.010	7.760	11 1/4	8 7/8	6 1/4	4 7/8	5/8	5
8	17-T	7 3/4–8 1/2	7.760	8.510	12 1/4	9 5/8	7	5 5/16	5/8	5 1/8

GENERAL NOTES:
(a) All dimensions are in inches.
(b) For use of thin or thick blanks, see General Note (b) to Table 32, p. 49. Locking device is the same size in the range above 3 5/8 in. to and including 12 1/4 in.
(c) See Notes to Table 32 for solid thread ring gages.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

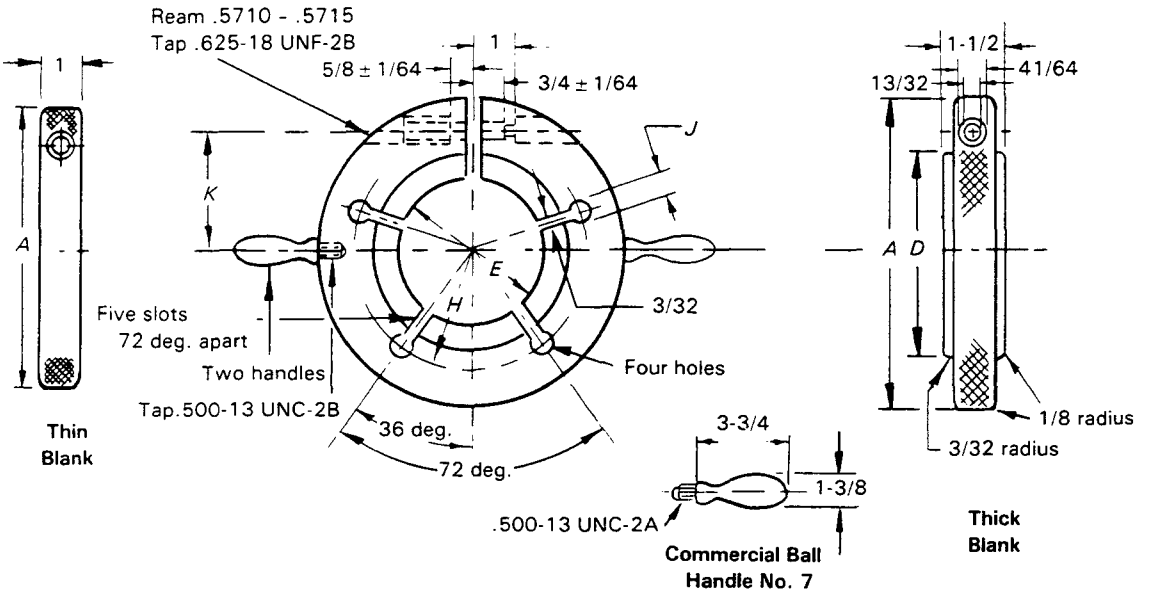


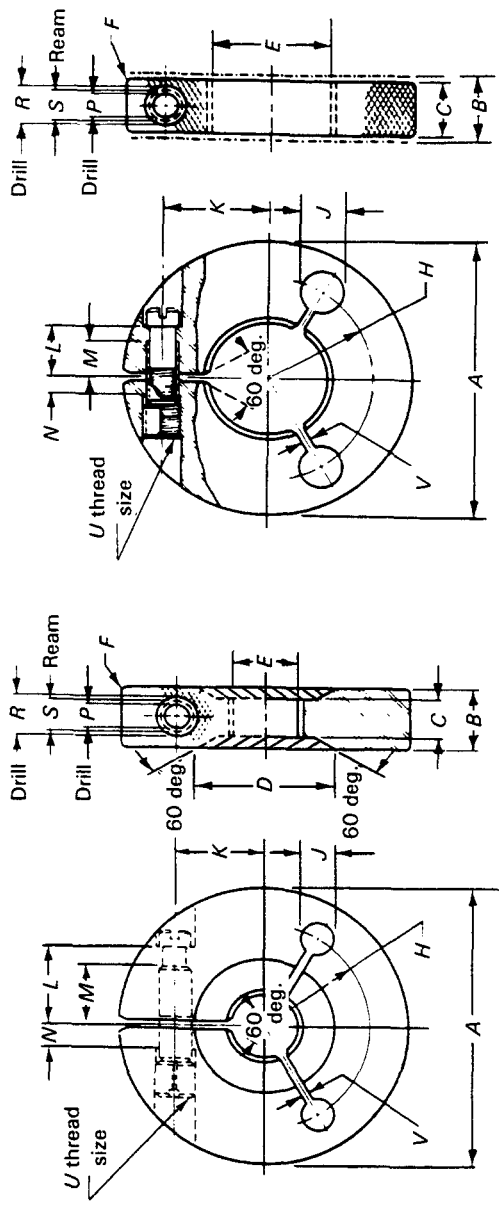
TABLE 34 THREAD RING GAGES — RANGE ABOVE 8.510 IN. TO AND INCLUDING 12.260 IN.

Ring Assembly No.	Ring Size No.	Nominal Range, Inclusive	Decimal Range		A	D	E	H	J	K
			Above	To and Including						
8	18-T	8 1/2–9 1/4	8.510	9.260	13 1/4	10 3/8	7 3/4	5 13/16	5/8	5 5/8
8	19-T	9 1/4–10	9.260	10.010	14 1/4	11 1/8	8 1/2	6 7/32	11/16	6 1/8
8	20-T	10–10 3/4	10.010	10.760	15 1/4	11 7/8	9 1/4	6 23/32	11/16	6 5/8
8	21-T	10 3/4–11 1/2	10.760	11.510	16 1/4	12 5/8	10	7 1/4	3/4	7 1/4
8	22-T	11 1/2–12 1/4	11.510	12.260	17 1/4	13 3/8	10 3/4	7 5/8	3/4	7 5/8

GENERAL NOTES:
(a) All dimensions are in inches.
(b) Special thicker blanks are sometimes required for checking long lengths of engagement or exceptionally coarse pitch threads.
(c) For use of thin or thick blanks, see General Note (b) to Table 32, p. 49. Locking device is the same size in the range above 3 5/8 in. to and including 12 1/4 in.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

TABLE 35



Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

TABLE 35 FINE-PITCH INSTRUMENT THREAD RING GAGES — RANGE ABOVE 0.240 IN. TO AND INCLUDING 2.510 IN.

Ring Size No.	Nominal Range, Inclusive	Decimal Range		TPI Finer Than	General Dimensions											
		Above	To and Including		*A*	*B*	*C*	*D*	*E*	*F*	*H*	*J*	*K*	*L*	*M* ± 1/64	*N* ± 1/64
2T	1/4–5/16	0.230	0.365	40	1 3/8	11/32	1/4	3/4	5/32	1/32	7/16	3/16	3/8	11/32	1/4	1/8
3T	3/8–1/2	.365	.510	36	1 3/4	7/16	5/16	1	3/16	3/64	19/32	1/4	15/32	1/2	3/8	3/16
4T	9/16–3/4	.510	.825	32	2 3/16	9/16	15/32	. . .	11/32	1/16	3/4	5/16	11/16	17/32	13/32	7/32
5T	7/8–1 1/8	.825	1.135	28	2 5/8	11/16	17/32	. . .	9/16	1/16	31/32	5/16	7/8	17/32	13/32	9/32
6T	1 1/4–1 1/2	1.135	1.510	28	3 1/4	3/4	5/8	. . .	27/32	1/16	1 5/16	3/8	1 1/8	5/8	7/16	5/16
7T	1 5/8–2	1.510	2.010	28	3 3/4	13/16	5/8	. . .	1 3/16	3/32	1 7/16	3/8	1 3/8	5/8	7/16	5/16
8T	2 1/8–2 1/2	2.010	2.510	28	4 1/2	7/8	11/16	. . .	1 19/32	3/32	1 3/4	7/16	1 11/16	13/16	9/16	7/16

Ring Size No.	Nominal Range, Inclusive	General Dimensions							
		Drill Size, *P* (No. or in.)	Drill Size, *R*	Ream, *S*		*U*			*V*	*W*
				Min.	Max.	Size	Pitch Diameter Min.	Pitch Diameter Max.		
2T	1/4–5/16	No. 31 (0.1200)	7/32 (0.2187)	0.1810	0.1813	.216-28	0.1928	0.1950	1/32	1/16
3T	3/8–1/2	No. 25 (.1495)	17/64 (.2656)	.2150	.2153	.250-28	.2268	.2290	1/32	3/32
4T	9/16–3/4	No. 7 (.2010)	21/64 (.3281)	.2720	.2723	.3125-24	.2854	.2878	1/16	3/32
5T	7/8–1 1/8	No. 1 (.2280)	25/64 (.3906)	.3340	.3344	.375-24	.3479	.3503	1/16	3/32
6T	1 1/4–1 1/2	17/64 (.2656)	29/64 (.4531)	.3890	.3894	.4375-20	.4050	.4076	1/16	3/32
7T	1 5/8–2	17/64 (.2656)	29/64 (.4531)	.3890	.3894	.4375-20	.4050	.4076	1/16	1/8
8T	2 1/8–2 1/2	21/64 (.3281)	33/64 (.5156)	.4510	.4515	.500-20	.4676	.4701	3/32	1/8

GENERAL NOTES:
(a) All dimensions are in inches.
(b) Solid working thread ring gages are of similar standard thickness and furnished without adjustment feature. Outside diameter of solid ring blanks may be smaller to suit particular requirements. See Table 39 for solid setting or master thread ring gage blanks.

Not for Resale

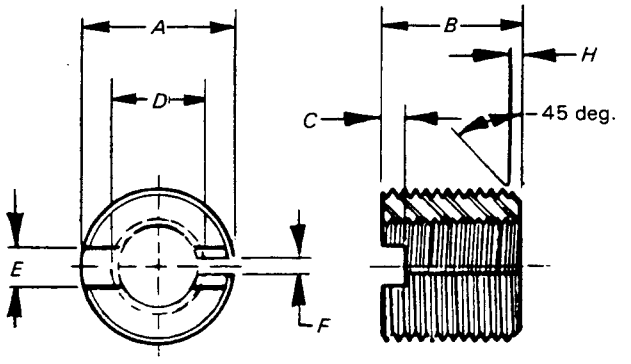


TABLE 36 THREAD RING GAGE ADJUSTING SCREWS

Ring Assembly No.	For Ring Size No.	Gage Range, Nominal, No. or in.	A					B	C
			Size (External Thread)	Pitch Diameter		Minor Diameter		[Note (1)]	
				Min.	Max.	Min.	Max.		
1	1-T	Nos. 0 to 12	.164-36	0.1442	0.1460	0.1315	0.1333	3/16	3/64
2	2-T	1/4–5/16	.216-28	.1906	.1928	.1744	.1766	1/4	3/64
3	3-T	3/8–1/2	.250-28	.2246	.2268	.2084	.2106	5/16	1/16
4	4-T	9/16–3/4	.3125-24	.2830	.2854	.2641	.2665	5/16	1/16
5	5-T	7/8–1 1/8	.375-24	.3455	.3479	.3266	.3290	3/8	5/64
6	6-7-T	1 1/4–2	.4375-20	.4024	.4050	.3797	.3823	7/16	5/64
7	8-10-T	2 1/8–3 1/2	.500-20	.4649	.4675	.4422	.4448	1/2	3/32
8	11-22-T	3 5/8–12 1/4	.625-18	.5859	.5889	.5607	.5637	9/16	3/32

Ring Assembly No.	For Ring Size No.	Gage Range, Nominal, No. or in.	D			E	F	H
			Size (Internal Thread)	Pitch Diameter		Tap Drill			
				Min.	Max.			
1	1-T	Nos. 0 to 12	.086-64	0.0759	0.0773	50 (0.070)	1/32	1/64	0.020
2	2-T	1/4–5/16	.112-48	.0985	.1001	42 (.093)	1/32	1/64	.020
3	3-T	3/8–1/2	.138-40	.1218	.1235	32 (.116)	3/64	1/32	.020
4	4-T	9/16–3/4	.190-32	.1697	.1716	20 (.161)	3/64	1/32	1/32
5	5-T	7/8–1 1/8	.216-28	.1928	.1950	14 (.182)	1/16	3/64	1/32
6	6-7-T	1 1/4–2	.250-28	.2268	.2290	3 (.213)	1/16	3/64	1/32
7	8-10-T	2 1/8–3 1/2	.3125-24	.2854	.2878	I (.272)	5/64	1/16	3/64
8	11-22-T	3 5/8–12 1/4	.375-24	.3479	.3503	Q (.332)	5/64	1/16	3/64

GENERAL NOTE: All dimensions are in inches.

NOTE:
(1) Tolerance on length B = ± 1/64 in.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

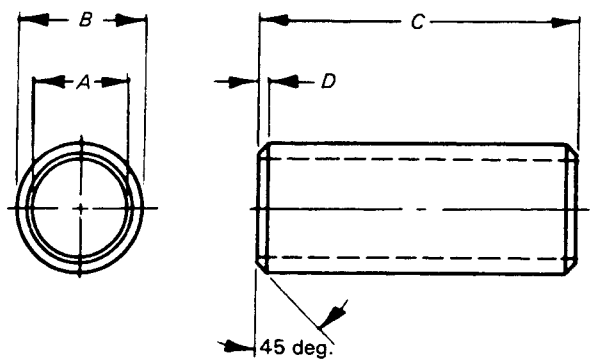


TABLE 37 THREAD RING GAGE SLEEVES

Ring Assembly No.	For Ring Size No.	Gage Range, Nominal, No. or in.	A		B		C [Note (1)]	D
			Drill Size	Decimal Equivalent	Min.	Max.		
1	1-T	Nos. 0 to 12	No. 43	0.089	0.1368	0.1370	1/4	0.010
2	2-T	1/4–5/16	No. 32	.116	.1808	.1810	7/16	.020
3	3-T	3/8–1/2	No. 27	.144	.2148	.2150	5/8	.020
4	4-T	9/16–3/4	No. 10	.193	.2718	.2720	11/16	1/32
5	5-T	7/8–1 1/8	No. 2	.221	.3337	.3340	3/4	1/32
6	6-7-T	1 1/4–2	F	.257	.3887	.3890	13/16	1/32
7	8-10-T	2 1/8–3 1/2	P	.323	.4507	.4510	1 1/16	3/64
8	11-22-T	3 5/8–12 1/4	25/64	.391	.5707	.5710	1 1/2	3/64

GENERAL NOTE: All dimensions are in inches.

NOTE:
(1) Tolerance on length C = $\pm$ 1/64 in.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

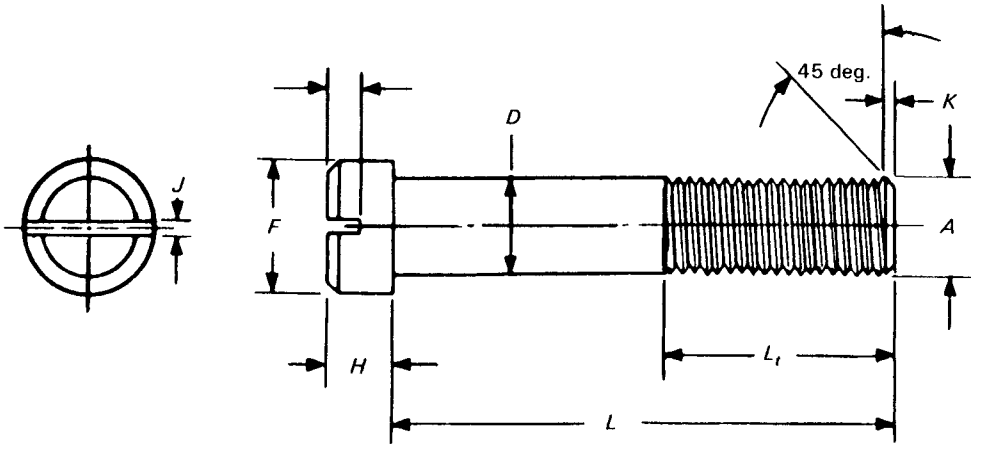


TABLE 38 THREAD RING GAGE LOCKING SCREWS

Ring Assembly No.	For Ring Size No.	Gage Range, Nominal, No. or in.	A Size	A Pitch Diameter Min.	A Pitch Diameter Max.	D Min.	D Max.	F Min.	F Max.	H Min.	H Max.	J Min.	J Max.	T Min.	T Max.	K	L (Note (1))	L_t
1	1-T	Nos. 0 to 12	.086-64 UNF-3A	0.0744	0.0759	0.0840	0.0860	0.136	0.140	0.066	0.083	0.023	0.031	0.025	0.037	0.010	29/64	3/16
2	2-T	1/4-5/16	.112-48 UNF-3A	.0967	.0985	.1096	.1120	.178	.183	.088	.107	.031	.039	.035	.048	.020	23/32	5/16
3	3-T	3/8-1/2	.138-40 UNF-3A	.1198	.1218	.1353	.1380	.221	.226	.111	.132	.039	.048	.045	.060	.020	1	7/16
4	4-T	9/16-3/4	.190-32 UNF-3A	.1674	.1697	.1867	.1900	.306	5/16	.156	.180	.050	.060	.064	.083	1/32	1 1/16	7/16
5	5-T	7/8-1 1/8	.216-28 UNF-3A	.1904	.1928	.2127	.2160	.337	11/32	.178	.205	.056	.067	.074	.094	1/32	1 3/16	1/2
6	6-7-T	1 1/4-2	.250-28 UNF-3A	.2243	.2268	.2464	.2500	.367	3/8	.207	.237	.064	.075	.087	.109	1/32	1 23/64	9/16
7	8-10-T	2 1/8-3 1/2	.3125-24 UNF-3A	.2827	.2854	.3084	.3125	.429	7/16	.262	.295	.072	.084	.110	.137	3/64	1 23/32	5/8
8	11-22-T	3 5/8-12 1/4	.375-24 UNF-3A	.3450	.3479	.3705	.3750	.553	9/16	.315	.355	.081	.094	.133	.164	3/64	2 3/16	3/4

GENERAL NOTE: All dimensions are in inches.

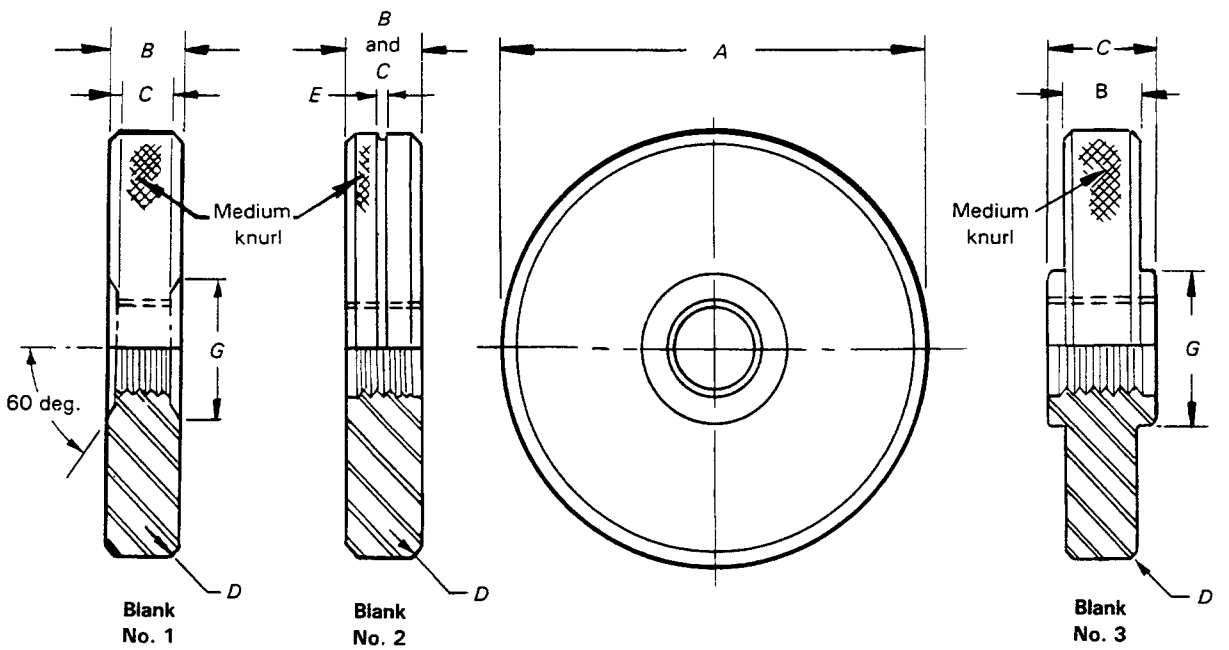
NOTE:
(1) Tolerance on length L = ± 1/32 in.

Not for Resale

Table 39 begins on next page.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

TABLE 39



GENERAL NOTES:
(a) All dimensions are in inches.
(b) *G* is 0.375 in. larger than the maximum major diameter of the thread and is applied only when *C* is less than or greater than the blank width *B*.
(c) *Option*. When blank No. 1 is used, diameter *G* may be counterbored to *C* from one side.
(d) Annular groove *E* to designate NOT GO gage, depth equals one-half the width.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

TABLE 39 SOLID, NONADJUSTABLE THREAD-SETTING AND MASTER (REFERENCE) RING GAGE BLANKS — RANGE 0.059 IN. TO 6.010 IN.

Nominal Range, Inclusive, No. or in.	Decimal Range, Above and Including	General Dimensions					Reference Only	
		A	*B*	*C*, Pitches	*D*	*E*	TPI	4 Pitches
							80	0.050000
Nos. 0 to 6	0.059	1	0.125	4	1/64	1/32	72	.055556
	.150						64	.062500
Nos. 8 to 12	.150	1	.167	4	1/64	3/64	56	.071428
	.230						48	.083332
1/4–5/16	.230	1 1/4	.167	4	1/64	3/64	44	.090908
	.365						40	.100000
3/8–1/2	.365	1 1/4	.200	4	1/32	1/16	36	.111112
	.510						32	.125000
9/16–3/4	.510	1 1/2	.286	4	2/64	1/16	28	.142856
	.825						24	.166668
7/8–1 1/8	.825	1 7/8	.333	4	3/64	3/32	20	.200000
	1.135						18	.222224
1 1/4–1 1/2	1.135	2 1/2	.333	4	3/64	3/32	16	.250000
	1.510						14	.285716
1 5/8–2	1.510	3 1/8	.333	4	3/64	3/32	13	.307692
	2.010						12	.333332
2 1/8–2 1/2	2.010	3 5/8	.333	4	3/64	3/32	11 1/2	.347828
	2.510						11	.363636
2 5/8–3	2.510	4 1/8	.333	4	3/64	3/32	10	.400000
	3.010						9	.444444
3 1/8–3 1/2	3.010	4 3/4	.500	4	3/64	3/32	8	.500000
	3.510						7	.571428
3 5/8–4	3.510	5 1/2	.500	4	3/64	3/32	6	.066668
	4.010						5	.800000
4 1/8–4 3/4	4.010	6 1/4	.500	4	3/64	3/32	4 1/2	.888888
	4.760						4	1.000000
4 7/8–5 3/8	4.760	7	.500	4	3/64	3/32		
	5.385							
5 1/2–6	5.385	7 3/4	.500	4	3/64	3/32		
	6.010							

No. 1 Blank — all pitches where *C* is less than *B*.
No. 2 Blank — all pitches where *C* and *B* are the same.
No. 3 Blank — all pitches where *C* is greater than *B*.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

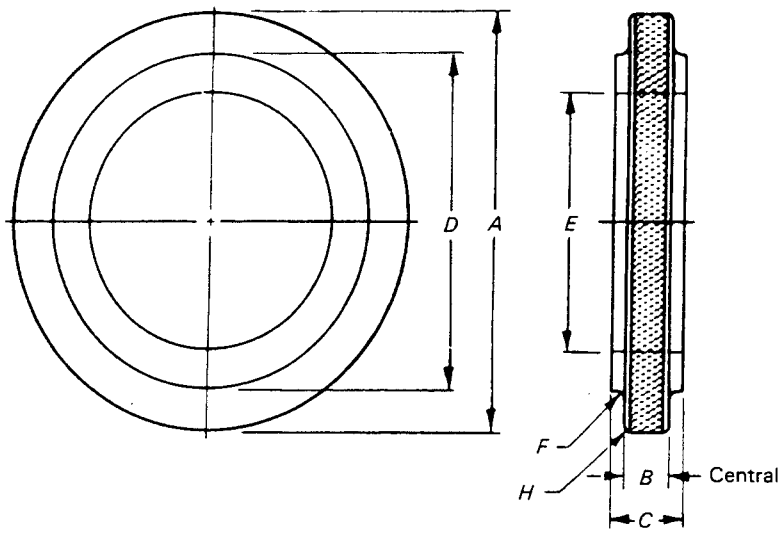


TABLE 40 TAPER PIPE-THREAD RING GAGES L_1 AND L_2 — RANGE 1/16 IN. TO 8 IN., INCLUSIVE (STANDARD BASIC NOTCH DESIGN)

Nominal Pipe Size	A	B	C L_1	C L_2	D	E	F	H
1/16	1 1/8	7/64	7/32	5/16	11/16	3/16	1/32	1/32
1/8	1 1/8	7/64	7/32	5/16	11/16	9/32	1/32	1/32
1/4	1 3/8	9/64	5/16	31/64	7/8	3/8	1/32	1/32
3/8	1 1/2	9/64	11/32	1/2	1	1/2	1/32	1/32
1/2	1 3/4	3/16	27/64	5/8	1 1/4	5/8	3/64	1/32
3/4	2	13/64	7/16	41/64	1 7/16	13/16	3/64	1/32
1	2 1/2	17/64	1/2	25/32	1 13/16	1	3/64	1/32
1 1/4	3	9/32	33/64	51/64	2 3/16	1 11/32	3/64	3/64
1 1/2	3 1/4	9/32	33/64	13/16	2 3/8	1 9/16	3/64	3/64
2	3 3/4	19/64	17/32	27/32	2 15/16	2 1/32	1/16	3/64
2 1/2	4 1/4	1/2	13/16	1 1/4	3 3/8	2 7/16	3/32	1/16
3	5	9/16	29/32	1 5/16	4	3 1/16	3/32	1/16
3 1/2	5 3/4	5/8	61/64	. . .	4 5/8	3 9/16	3/32	1/16
4	6 1/2	21/32	1	. . .	5 3/16	4 1/16	3/32	1/16
5	7 1/2	23/32	1 1/16	. . .	6 1/4	5 1/8	3/32	3/32
6	9	23/32	1 3/32	. . .	7 1/2	6 1/8	3/32	3/32
8	11	13/16	1 3/16	. . .	9 1/2	8 1/8	1/8	3/32

GENERAL NOTES:
(a) All dimensions are in inches.
(b) Master ring gage for checking L_1 and L_2 working plug gages can be made from CL_2 blanks.
(c) As an alternate standard, L_2 basic notch ring gages can be made from same blanks as the PTF-SAE L_2 short-step limit blanks shown in Table 40A.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

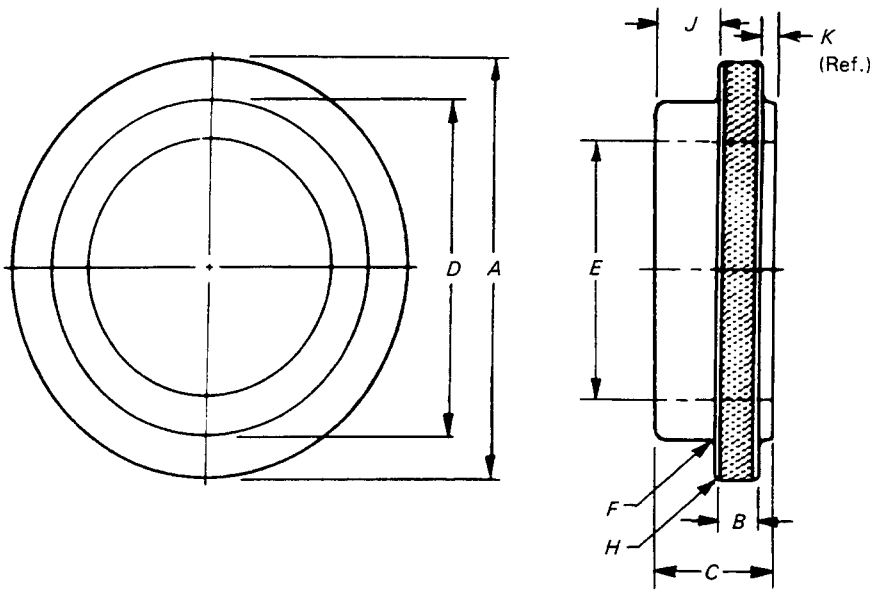
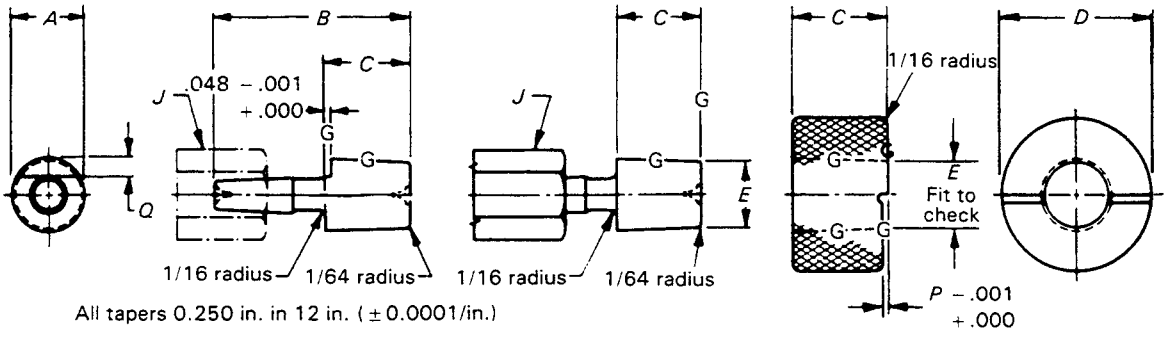


TABLE 40A TAPER PIPE-THREAD RING GAGES — STEP LIMIT DESIGN

Nominal Pipe Size	L_1 Step Limit			L_2 Step Limit			PTF-SAE L_1 Short-Step Limit			PTF-SAE L_2 Short-Step Limit		
	C	*J*	*K* (Ref.)	*C*	*J*	*K* (Ref.)	*C*	*J*	*K* (Ref.)	*C*	*J*	*K* (Ref.)
1/16	1/4	7/64	1/32	23/64	5/32	3/32	7/32	5/64	1/32	5/16	1/8	5/64
1/8	1/4	7/64	1/32	23/64	5/32	3/32	7/32	5/64	1/32	5/16	1/8	5/64
1/4	3/8	11/64	1/16	35/64	1/4	5/32	5/16	1/8	3/64	31/64	13/64	9/64
3/8	25/64	3/16	1/16	9/16	17/64	5/32	11/32	9/64	1/16	1/2	7/32	9/64
1/2	1/2	7/32	3/32	45/64	21/64	3/16	27/64	11/64	1/16	5/8	17/64	11/64
3/4	33/64	7/32	3/32	23/32	21/64	3/16	7/16	11/64	1/16	41/64	17/64	11/64
1	19/32	1/4	5/64	7/8	25/64	7/32	1/2	11/64	1/16	25/32	5/16	13/64
1 1/4	5/8	1/4	3/32	7/8	25/64	13/64	33/64	11/64	1/16	51/64	5/16	13/64
1 1/2	5/8	1/4	3/32	29/32	25/64	15/64	33/64	11/64	1/16	13/16	21/64	13/64
2	5/8	1/4	5/64	15/16	13/32	15/64	17/32	11/64	1/16	27/32	21/64	7/32
2 1/2	15/16	21/64	7/64	1 3/8	9/16	5/16	13/16	1/4	1/16	1 1/4	15/32	9/32
3	1 1/32	23/64	7/64	1 7/16	9/16	5/16	29/32	17/64	5/64	1 5/16	15/32	9/32

GENERAL NOTES:
(a) All dimensions are in inches.
(b) *A*, *B*, *D*, *E*, *F*, and *H* are same as shown in Table 40.
(c) For step limit design gages, the flange *B* is not central.
(d) For L_1 and L_2 step limit gages, *J* will accommodate a maximum step of 2 pitch length.
(e) For PTF-SAE L_1 and L_2 short gages, *J* will accommodate a maximum step of 1 1/2 pitch length.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS Not for Resale



All tapers 0.250 in. in 12 in. (±0.0001/in.)

G = ground surface

Plug Gage **Check Gage** **Ring Gage**

TABLE 41 PLUG AND RING GAGES FOR CHECKING HANDLES AND GAGING MEMBER TAPER SHANKS OF TAPER LOCK PLUG GAGES — RANGE ABOVE 0.059 IN. TO AND INCLUDING 1.510 IN.

Plug Gages for Checking Handles

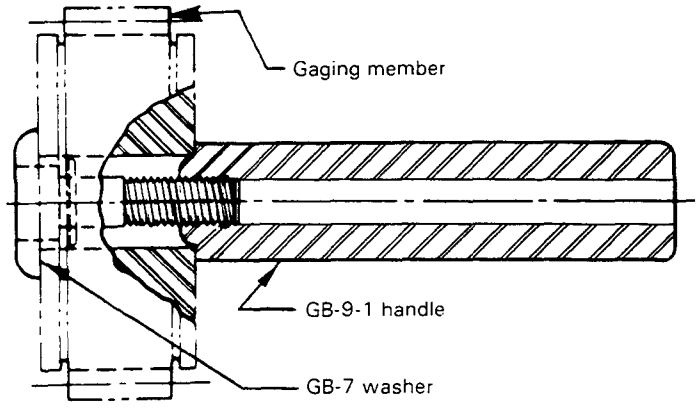
Size No. of Handle to Be Gaged	*A* +0.0000 −0.0001	*B*	*C*	Handle Size No., *J*	*Q*
000	0.126	1 3/8	1/2	000	0.015
00	.156	1 17/32	9/16	00	.015
0	.181	1 17/32	5/8	0	.020
1	.240	2	3/4	1	.025
2	.310	2	3/4	1	.025
3	.410	2	3/4	2	.050
4	.610	2 3/16	7/8	3	.100
5	.810	2 5/16	1	3	.200

Ring Gages for Checking Gaging Members, and Check Gages

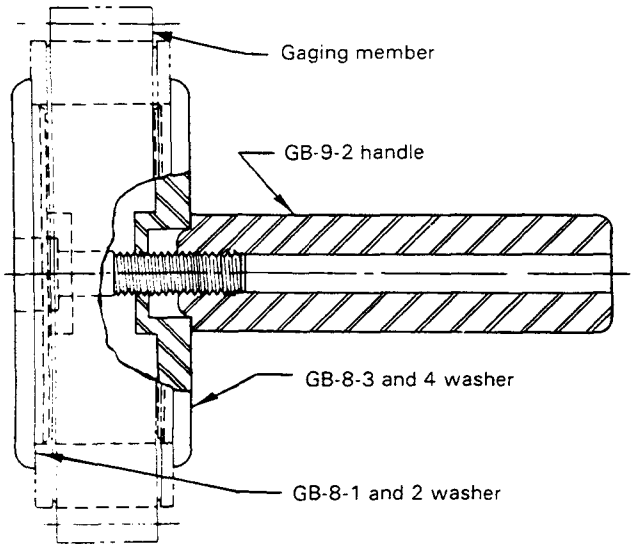
Size No. of Shank to Be Gaged	*E* −0.0000 +0.0001	*C*	*D*	Handle Size No., *J*	*P* +0.000 −0.001
000	0.1146	9/16	1	000	0.0480
00	0.1433	5/8	1	00	.0480
0	0.1670	11/16	1 1/8	0	.0480
1	0.2234	13/16	1 1/8	1	.0480
2	0.2934	13/16	1 1/4	1	.0480
3	0.3924	7/8	1 3/8	2	.0960
4	0.5898	1	1 9/16	3	.0960
5	0.7872	1 1/8	1 3/4	3	.0960

GENERAL NOTES:
(a) All dimensions except *J* are in inches.
(b) Dimensions not specified above shall conform to American Gage Design Standards (see Tables 7, 8, 10, and 12, pp. 12, 13, 16, and 18, respectively).

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS Not for Resale



Range — above 1.5 in. to and including 5.0 in.



Range — above 5.0 in. to and including 8.0 in.

GENERAL NOTE:
For details of handles and washers, see Tables 42, 43, and 44, p. 64.

FIG. 8 THREE-PIECE SPLINE PLUG GAGE ASSEMBLY

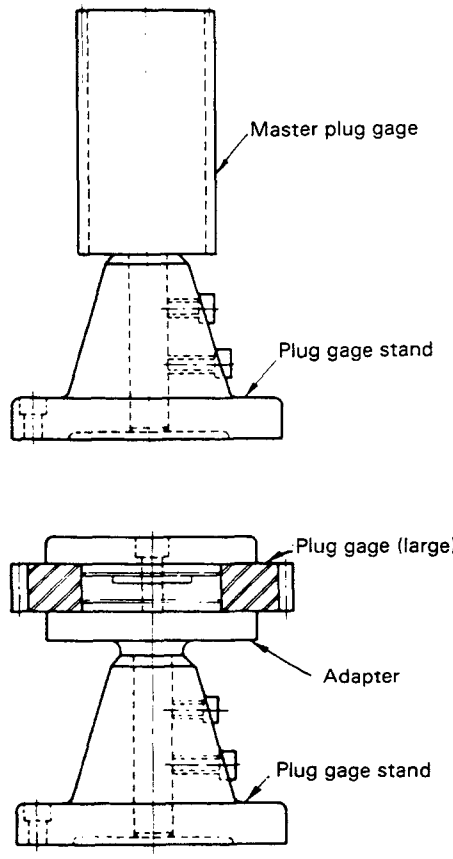


FIG. 9 SPLINE PLUG GAGE STANDS

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

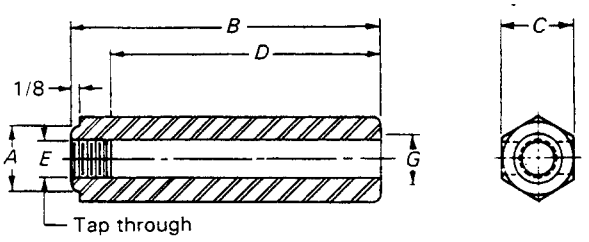


TABLE 42 HANDLES FOR SPLINE PLUG GAGES — RANGE ABOVE 1.5 IN. TO AND INCLUDING 8.0 IN.

Handle No.	Dimensions					
	A	*B*	*C*	*D*	*E*	*G*
GB-9-1	47/64	4 1/8	13/16	3 3/4	.375-16 UNC-2B	(2)
GB-9-2 (1)	63/64	4 7/8	1 1/8	4 1/4	.500-20 UNF-2B	(2)

GENERAL NOTE: All dimensions except *E* are in inches.

NOTES:
(1) Can be made from A.G.D. handle No. 6.
(2) Use standard top drill.

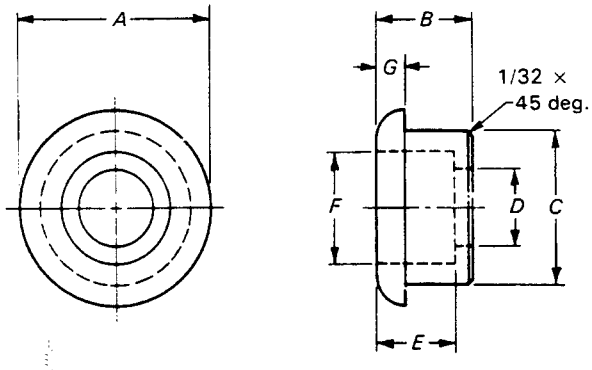


TABLE 43 WASHERS FOR SPLINE PLUG GAGING MEMBERS (CUP TYPE, SMALL) — RANGE ABOVE 1.5 IN. TO AND INCLUDING 5.0 IN.

Washer No.	Dimensions						
	A	*B*	*C*	*D*	*E*	*F*	*G*
GB-7-1	1	1/2	47/64	13/32	3/8	19/32	3/16
GB-7-2	1 1/4	5/8	63/64	17/32	1/2	25/32	3/16

GENERAL NOTE: All dimensions are in inches.

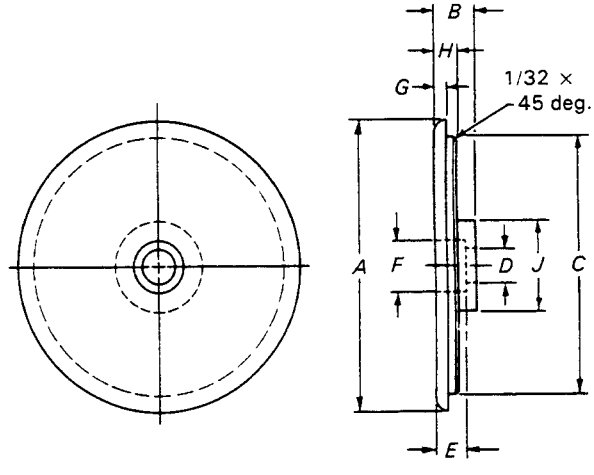


TABLE 44 WASHERS FOR SPLINE PLUG GAGING MEMBERS (CUP TYPE, LARGE) — RANGE ABOVE 5.0 IN. TO AND INCLUDING 8.0 IN.

Washer No.	Dimensions								
	A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*J*
GB-8-1	3	5/8	2 47/64	17/32	1/2	25/32	3/16	5/16	1 1/4
GB-8-2	4 3/8	5/8	3 63/64	17/32	1/2	25/32	3/16	5/16	1 1/4
GB-8-3	3	5/8	2 47/64	17/32	1/2	1 1/64	3/16	5/16	1 1/4
GB-8-4	4 3/8	5/8	3 63/64	17/32	1/2	1 1/64	3/16	5/16	1 1/4

GENERAL NOTE: All dimensions are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

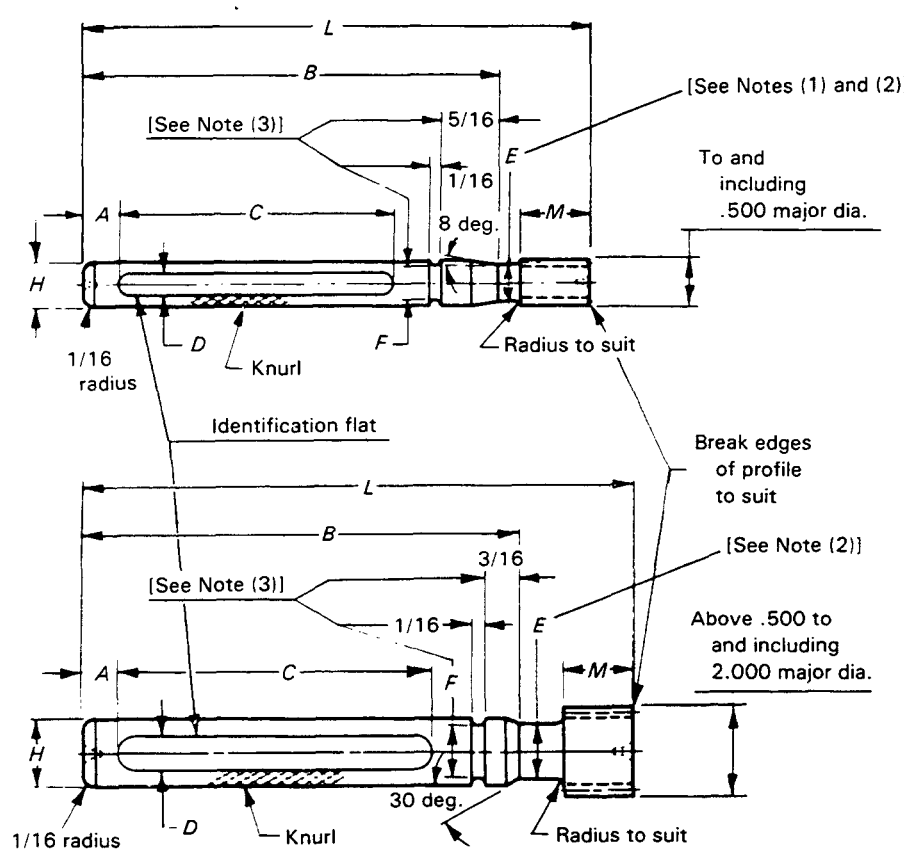


TABLE 45 INVOLUTE, SERRATED, AND STRAIGHT-SIDED SPLINE COMPOSITE AND SECTOR PLUG GAGES — RANGE TO AND INCLUDING 2.0 IN.

Major Diameter		Dimensions										
			B				*F*				*M*	
Above	To and including	*A*	GO	NOT GO	*C*	*D*	GO	NOT GO	*H*	*L*	GO	NOT GO
0.000	0.250	3/16	2 1/8	2 1/4	1 1/2	1/8	(3)	3/16	1/4	2 3/4	3/8	1/4
.250	.375	3/16	2 1/8	2 1/4	1 1/2	3/16	(3)	1/4	5/16	2 7/8	1/2	3/8
.375	.500	3/16	2 1/4	2 3/8	1 3/4	3/16	(3)	5/16	3/8	3	1/2	3/8
.500	.750	9/32	2 7/16	2 9/16	1 7/8	1/4	(3)	3/8	7/16	3 3/8	5/8	1/2
.750	1.000	5/16	2 1/2	2 3/4	1 7/8	5/16	(3)	1/2	9/16	3 5/8	3/4	1/2
1.000	1.500	5/16	2 3/4	3 1/8	2 1/8	5/16	(3)	11/16	3/4	4 1/8	1	5/8
1.500	2.000	5/16	2 3/4	3 1/8	2 1/8	5/16	(3)	11/16	3/4	4 1/4	1 1/8	3/4

GENERAL NOTES:
(a) All dimensions are in inches.
(b) An alternate design having a removable or reversible member similar to that shown in Table 46 may be used.

NOTES:
(1) To clear minor diameter by 0.003 in. minimum.
(2) To clear minor diameter by 0.010 in. minimum for 1/2 in. and smaller.
(3) These dimensions apply to NOT GO only.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS Not for Resale

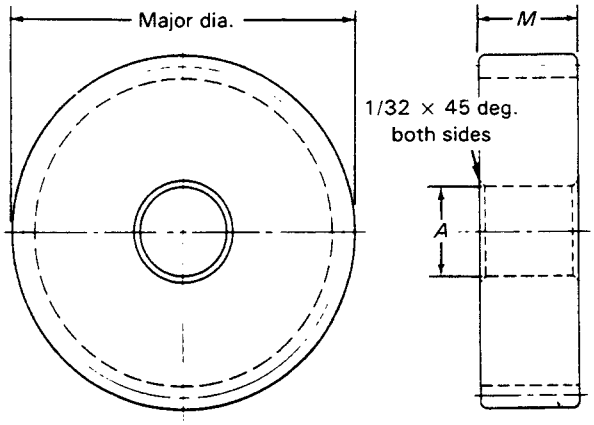


TABLE 46 INVOLUTE, SERRATED, AND STRAIGHT-SIDED SPLINE COMPOSITE AND SECTOR PLUG GAGING MEMBERS — RANGE ABOVE 1.5 IN. TO AND INCLUDING 8.0 IN.

Major Diameter		Dimensions					
		A		*M*			
Above	To and Including	Min.	Max.	GO	NOT GO	Handle No.	Washer No.
1.500	3.000	0.7500	0.7503	1 1/8	7/8	GB-9-1	GB-7-1
3.000	5.000	1.0000	1.0003	1 1/2	1	GB-9-2	GB-7-2
5.000	7.000	2.7500	2.7504	1 1/2	1	GB-9-2	GB-8-1 and 3 (1)
7.000	8.000	4.0000	4.0005	1 1/2	1	GB-9-2	GB-8-2 and 4 (1)

GENERAL NOTE: All dimensions are in inches.

NOTE:
(1) See Fig. 9, p. 63, for stand adapter.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

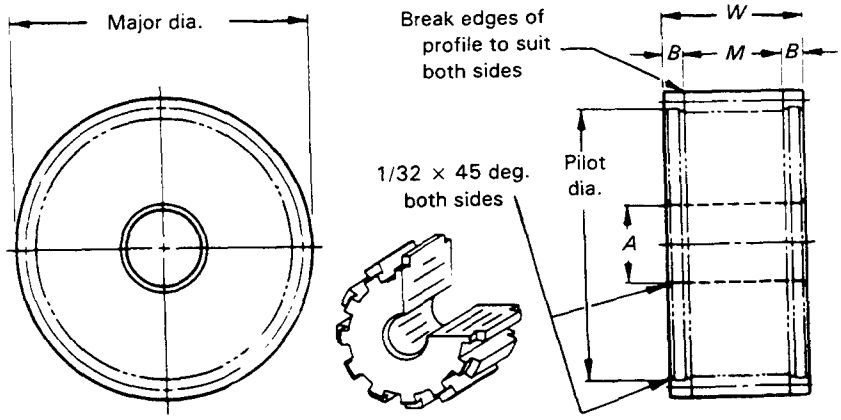


TABLE 47 INVOLUTE, SERRATED, AND STRAIGHT-SIDED SPLINE COMPOSITE AND SECTOR PLUG GAGING MEMBERS, PILOT TYPE — RANGE ABOVE 1.5 IN. TO AND INCLUDING 8.0 IN.

Major Diameter		Dimensions								
		A			*M*		*W*			
Above	To and Including	Min.	Max.	*B*	GO	NOT GO	GO	NOT GO	Handle No.	Washer No.
1.500	3.000	0.7500	0.7503	3/16	1 1/8	7/8	1 1/2	1 1/4	GB-9-1	GB-7-1
3.000	5.000	1.0000	1.0003	3/16	1 1/2	1	1 7/8	1 3/8	GB-9-2	GB-7-2
5.000	7.000	2.7500	2.7504	3/16	1 1/2	1	1 7/8	1 3/8	GB-9-2	GB-8-1 and 3 (1)
7.000	8.000	4.0000	4.0005	3/16	1 1/2	1	1 7/8	1 3/8	GB-9-2	GB-8-2 and 4 (1)

GENERAL NOTE: All dimensions are in inches.

NOTE:
(1) See Fig. 9, p. 63, for stand adapter.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

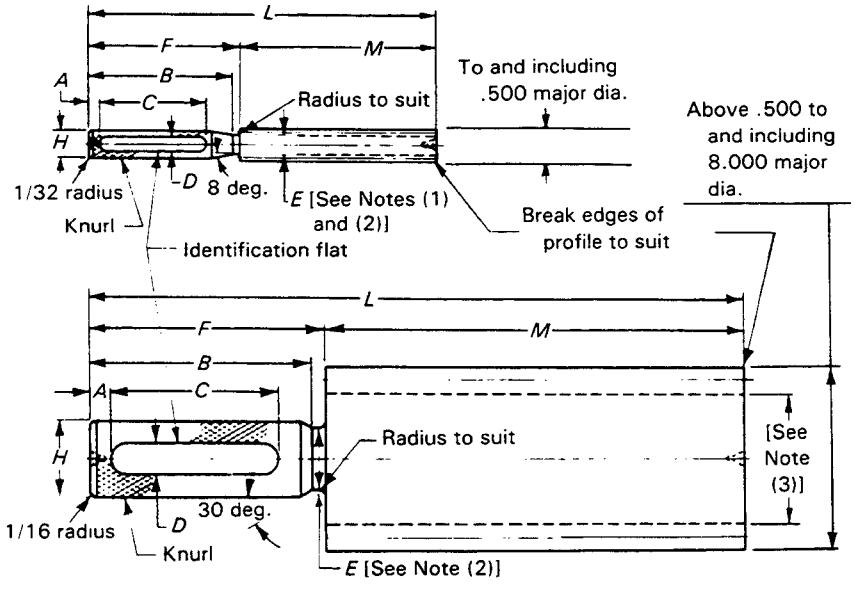


TABLE 48 INVOLUTE, SERRATED, AND STRAIGHT-SIDED SPLINE TAPERED-TOOTH COMPOSITE AND SECTOR PLUG GAGES, MASTER AND WORKING — RANGE TO AND INCLUDING 8.0 IN.

Major Diameter		Dimensions						
Above	To and Including	*A*	*B*	*C*	*D*	*F*	*H*	*M* (Max.)
0.000	0.250	3/16	2 1/8	1 1/2	1/8	2 3/8	1/4	4.5 × P.D.
.250	.375	3/16	2 1/8	1 1/2	3/16	2 3/8	5/16	4.5 × P.D.
.375	.500	3/16	2 3/8	1 3/4	3/16	2 1/2	3/8	4.5 × P.D.
.500	.625	9/32	2 1/2	1 7/8	1/4	2 3/4	7/16	4.5 × P.D.
.625	.750	9/32	2 1/2	1 7/8	1/4	2 3/4	7/16	4 × P.D.
.750	1.250	5/16	2 9/16	1 7/8	5/16	2 7/8	9/16	4 × P.D.
1.250	1.750	5/16	2 13/16	2 1/8	5/16	3 1/8	3/4	4 × P.D.
1.750	2.250	3/8	3 3/16	2 1/4	3/8	3 3/8	1	7
2.250	3.000	3/8	3 7/16	2 1/2	1/2	3 5/8	1 1/4	7
3.000	8.000	3/8	3 11/16	2 3/4	1/2	3 7/8	1 1/4	7

GENERAL NOTES:
(a) All dimensions are in inches.
(b) An alternate design having a removable or reversible member similar to that shown in Table 46 may be used.

NOTES:
(1) To clear minor diameter by 0.003 in. minimum.
(2) To clear minor diameter by 0.010 in. minimum for 1/2 in. and smaller.
(3) May be bored out to suit for weight relief.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

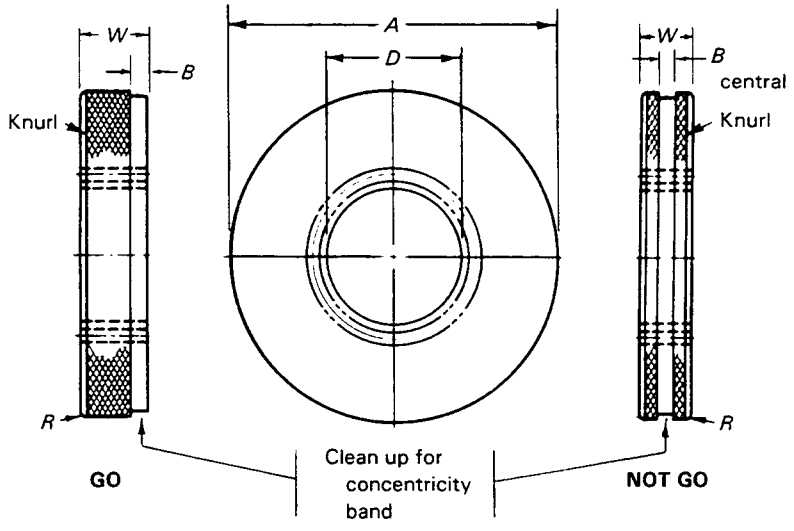


TABLE 49 INVOLUTE AND SERRATED SPLINE COMPOSITE AND SECTOR RING GAGES — RANGE TO AND INCLUDING 8.0 IN.

Major Diameter		Dimensions					
						W	
Above	To and Including	*A*	*B*	*D*	*R*	GO	NOT GO
0.000	0.375	1 1/2	3/32	0	1/32	1/4	1/4
.375	.500	1 1/2	1/8	3/16	1/32	3/8	3/8
.500	.750	2	1/8	5/16	1/32	1/2	3/8
.750	1.000	2 1/2	1/8	5/16	1/32	1/2	3/8
1.000	1.500	3	3/16	5/8	1/16	5/8	1/2
1.500	2.250	4	3/16	1	1/16	5/8	1/2
2.250	3.000	4 3/4	1/4	1 5/8	1/16	3/4	5/8
3.000	4.000	6	1/4	2 3/8	1/16	3/4	5/8
4.000	5.000	7	1/4	3 3/8	1/16	1	3/4
5.000	6.000	8	1/4	4 3/8	1/16	1	3/4
6.000	7.000	9 1/2	1/4	5 3/8	1/16	1 1/8	7/8
7.000	8.000	10 1/2	1/4	6 3/8	1/16	1 1/8	7/8

GENERAL NOTE: All dimensions are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

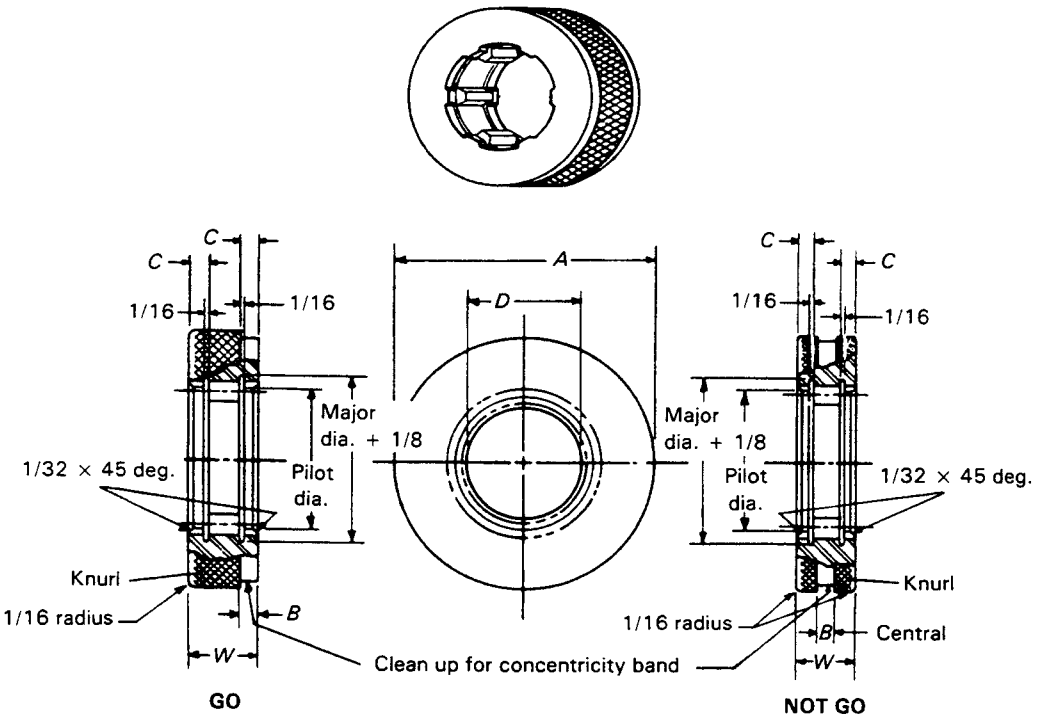


TABLE 50 INVOLUTE AND SERRATED SPLINE COMPOSITE AND SECTOR RING GAGES, PILOT TYPE — RANGE ABOVE 1.5 IN. TO AND INCLUDING 8.0 IN.

Major Diameter		Dimensions					
						W	
Above	To and Including	*A*	*B*	*C*	*D*	GO	NOT GO
1.500	2.250	4	3/16	3/16	1	1	7/8
2.250	3.000	4 3/4	1/4	1/4	1 5/8	1 1/4	1 1/8
3.000	4.000	6	1/4	1/4	2 3/8	1 1/4	1 1/8
4.000	5.000	7	1/4	1/4	3 3/8	1 1/2	1 1/4
5.000	6.000	8	1/4	1/4	4 3/8	1 1/2	1 1/4
6.000	7.000	9 1/2	1/4	1/4	5 3/8	1 5/8	1 3/8
7.000	8.000	10 1/2	1/4	1/4	6 3/8	1 5/8	1 3/8

GENERAL NOTE: All dimensions are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

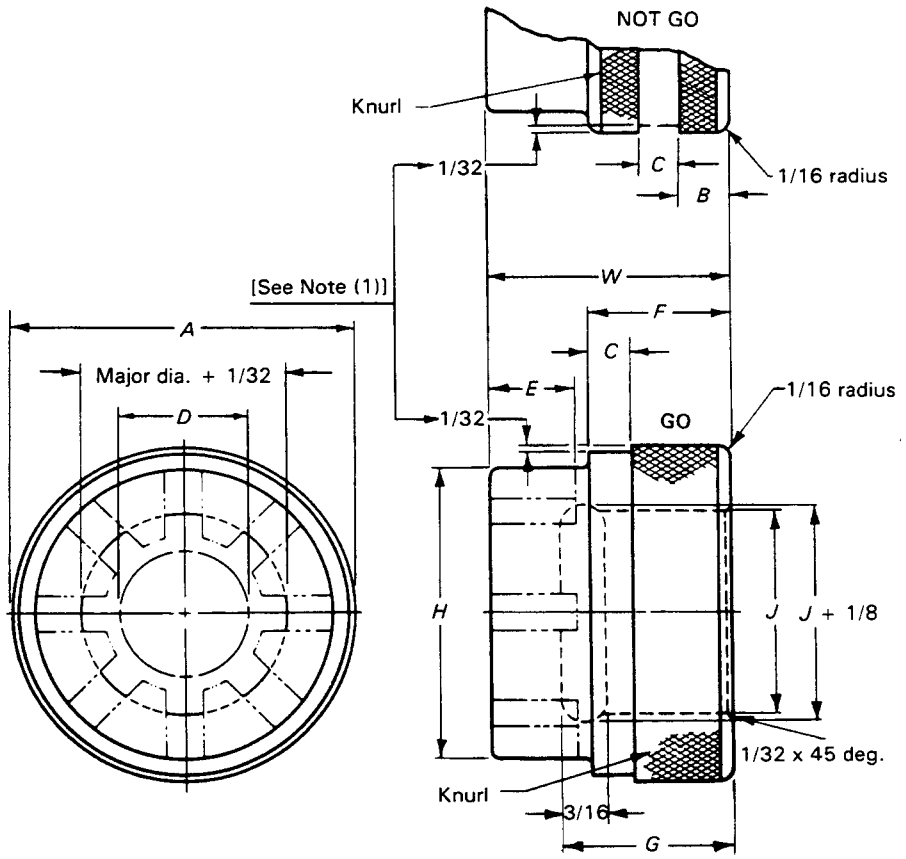


TABLE 51 STRAIGHT-SIDED SPLINE COMPOSITE RING GAGES, PRONG TYPE, FOR SPACE WIDTHS 0.070 IN. OR LESS — RANGE TO AND INCLUDING 1.0 IN.

Major Diameter		Dimensions									
Above	To and Including	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*J*	*W*
0.000	0.250	1	3/16	1/8	0	1/4	1/2	5/8	3/4	(2) (3)	13/16
.250	.500	1 1/4	3/16	1/8	0	5/16	1/2	5/8	1	(2) (3)	7/8
.500	.750	1 1/2	7/32	3/16	0	3/8	5/8	3/4	1 3/8	(2) (3)	1 1/16
.750	1.000	1 3/4	9/32	3/16	3/8	7/16	3/4	7/8	1 5/8	(2) (3)	1 1/4

GENERAL NOTE: All dimensions are in inches.

NOTES:
(1) Grind for concentricity band if required.
(2) Relief beyond *J* is optional.
(3) Major diameter plus minimum of 1/32 in. to the nearest 1/8 in.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

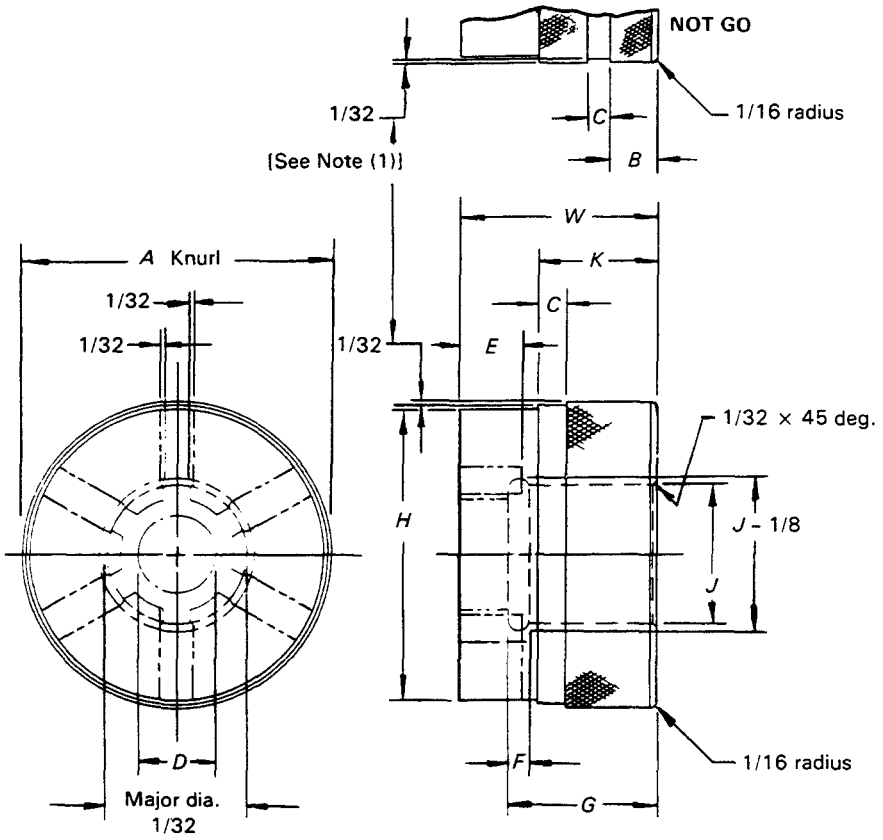


TABLE 52 STRAIGHT-SIDED SPLINE COMPOSITE RING GAGES, PRONG TYPE, FOR SPACE WIDTHS GREATER THAN 0.070 IN. — RANGE TO AND INCLUDING 6.0 IN.

Major Diameter		Dimensions										
Above	To and Including	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*J*	*K*	*W*
0.000	0.500	1 5/8	1/4	3/16	0	9/16	3/16	15/16	1 1/2	(2)	11/16	1 3/8
.500	1.000	2 1/8	3/8	3/16	3/8	9/16	3/16	1 3/16	2	(2)	15/16	1 5/8
1.000	1.500	2 3/4	7/16	3/16	5/8	9/16	3/16	1 5/16	2 5/8	(2)	1 1/16	1 3/4
1.500	2.000	3 1/2	13/32	3/16	1	11/16	3/16	1 3/16	3 3/8	(2)	1	1 3/4
2.000	2.500	4 1/4	17/32	3/16	1 3/8	11/16	3/16	1 7/16	4 1/8	(2)	1 1/4	2
2.500	3.000	5	9/16	1/4	1 3/4	11/16	3/16	1 9/16	4 7/8	(2)	1 3/8	2 1/8
3.000	4.000	6	23/32	1/4	2 1/8	3/4	1/4	1 15/16	5 7/8	(2)	1 11/16	2 1/2
4.000	5.000	7 1/2	13/16	1/4	3 1/8	3/4	1/4	2 3/16	7 3/8	(2)	1 7/8	2 3/4
5.000	6.000	8 1/2	7/8	1/4	3 7/8	3/4	1/4	2 5/16	8 3/8	(2)	2	3

GENERAL NOTE: All dimensions are in inches.

NOTES:
(1) Grind for concentricity band if required.
(2) Major diameter plus minimum of 1/32 in. to the nearest 1/8 in.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

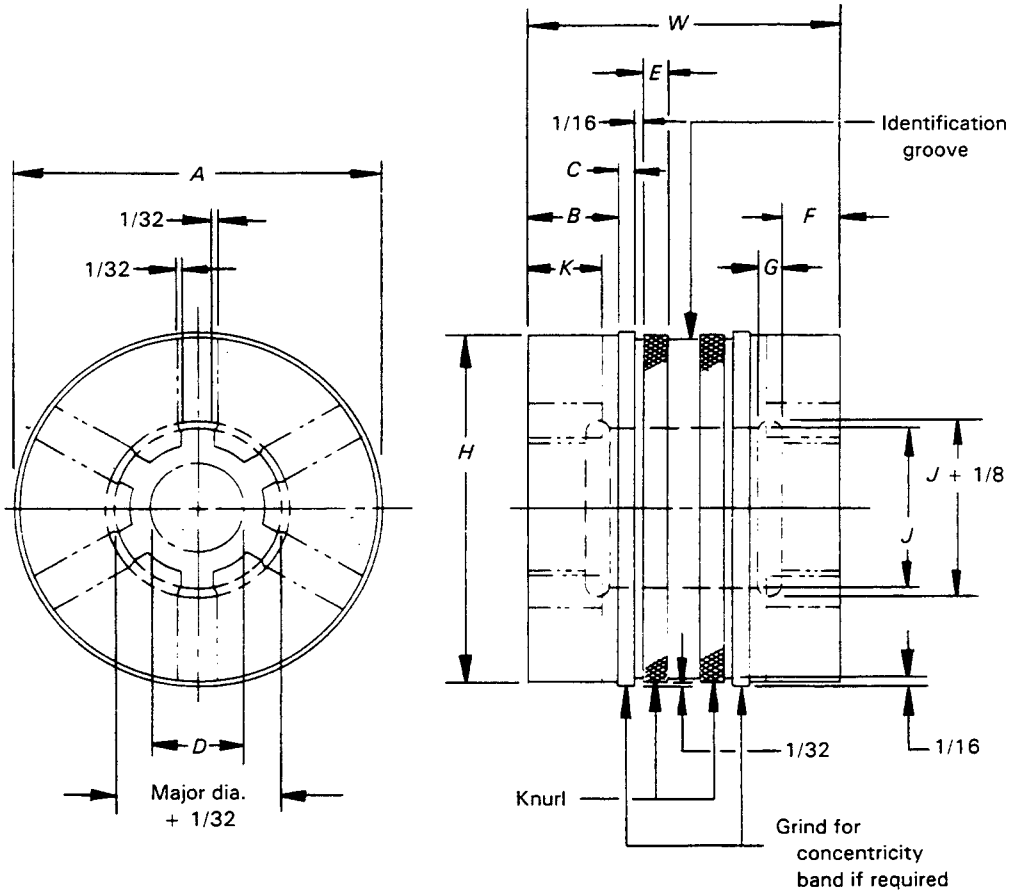


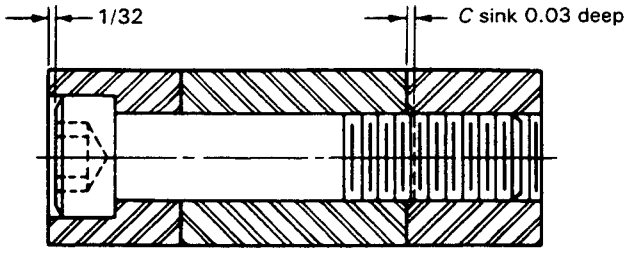
TABLE 53 STRAIGHT-SIDED SPLINE COMPOSITE ALIGNMENT RING GAGES, DOUBLE-END PRONG TYPE — RANGE ABOVE 1.0 IN. TO AND INCLUDING 6.0 IN.

Major Diameter		Dimensions										
Above	To and Including	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*J*	*K*	*W*
1.000	1.500	2 3/4	11/16	1/8	5/8	3/16	7/16	3/16	2 11/16	(1)	9/16	2 3/8
1.500	2.000	3 1/2	3/4	1/8	1	3/16	9/16	3/16	3 7/16	(1)	11/16	2 1/2
2.000	2.500	4 1/2	3/4	3/16	1 3/8	1/4	9/16	3/16	4 7/16	(1)	11/16	2 3/4
2.500	3.000	5	3/4	3/16	1 3/4	1/4	9/16	3/16	4 15/16	(1)	11/16	2 7/8
3.000	4.000	6	13/16	1/4	2 1/8	5/16	9/16	1/4	5 15/16	(1)	3/4	3 1/4
4.000	5.000	7 1/2	7/8	1/4	3 1/8	3/8	9/16	1/4	7 7/16	(1)	3/4	3 1/2
5.000	6.000	8 1/2	1	1/4	3 7/8	7/16	11/16	1/4	8 7/16	(1)	7/8	3 7/8

GENERAL NOTE: All dimensions are in inches.

NOTE:
(1) Major diameter plus minimum of 1/32 in.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale



Enlarged Section *A–A*

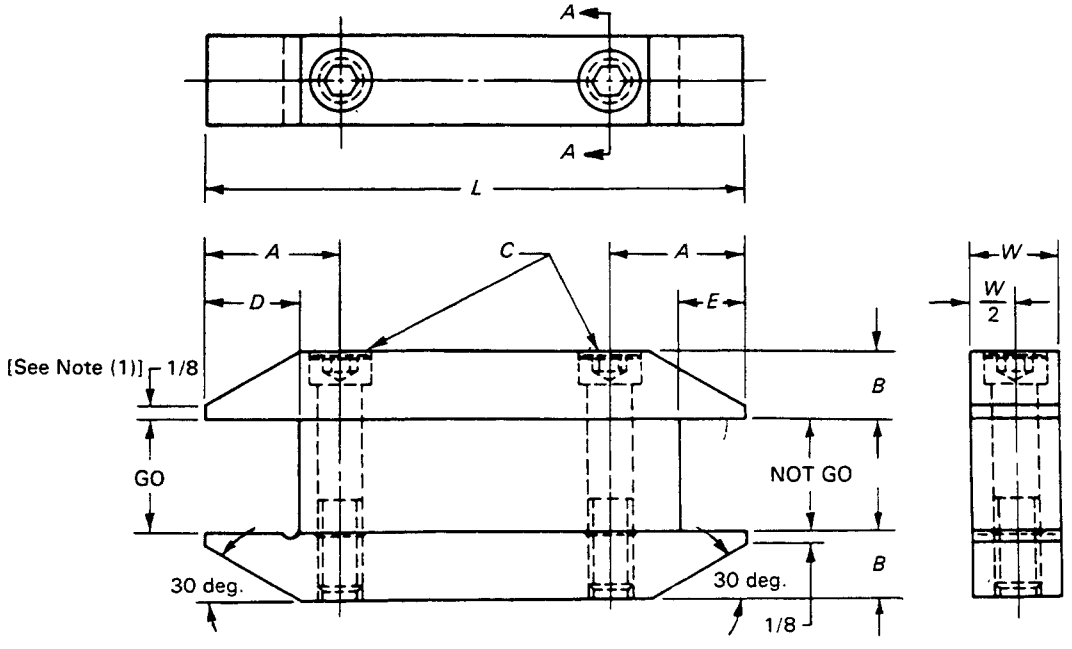


TABLE 54 BUILT-UP DOUBLE-END SNAP GAGES FOR TOOTH THICKNESS OF STRAIGHT-SIDED EXTERNAL SPLINES

Tooth Thickness		Dimensions						
Above	To and Including	*L*	*W*	*A*	*B*	*C*	*D*	*E*
0.000	0.250	2	3/8	5/8	5/16	.190-32 UNF-2A/2B	(2)	(3)
.250	.500	2 1/2	1/2	3/4	5/16	.190-32 UNF-2A/2B	(2)	(3)
.500	.750	3	1/2	3/4	3/8	.250-20 UNC-2A/2B	(2)	(3)

GENERAL NOTE: All dimensions except *C* are in inches.

NOTES:
(1) Check individual gage for interference.
(2) $\frac{\text{Major diameter} - \text{minor diameter}}{2} + 3/16$
(3) $\frac{\text{Major diameter} - \text{minor diameter}}{2} + 1/16$

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

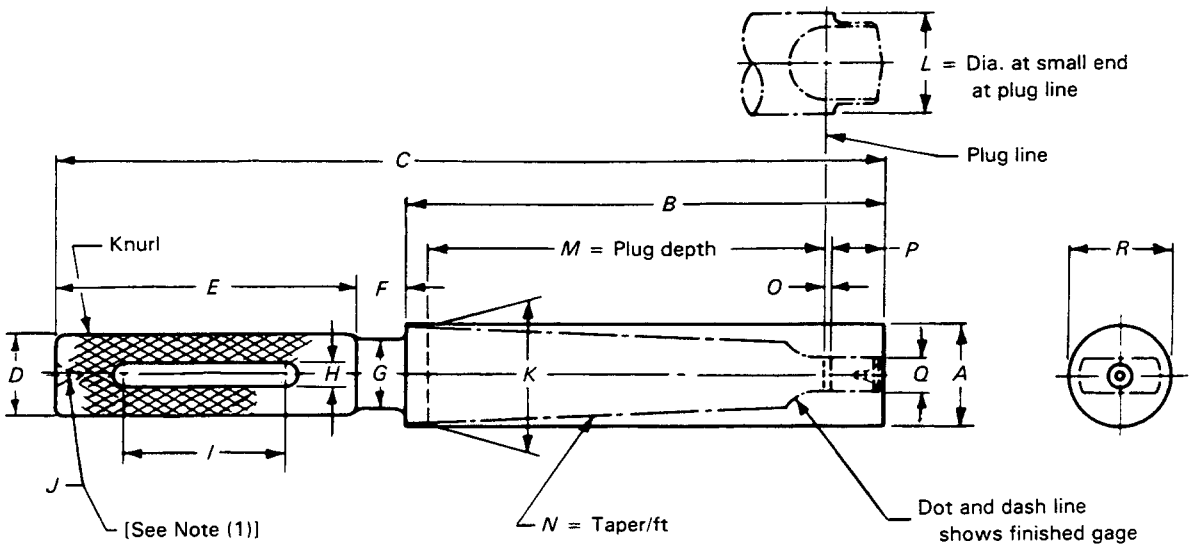


TABLE 55 MACHINE TAPER PLUG GAGES, WITH TANG

Blank No.	Blank Dimensions A	B	C	D	E	F	G	H	I	J [Note (1)]	Used for
1	17/64	1 7/16	3 11/16	5/16	1 7/8	3/8	3/16	3/16	1 1/2	A-1	B & S #1
2	21/64	1 3/4	4	5/16	1 7/8	3/8	3/16	3/16	1 1/2	A-1	B & S #2
3	13/32	2 7/16	4 15/16	3/8	2 1/8	3/8	5/16	1/4	1 1/2	C-2	B & S #3 Morse #0
4	29/64	2 11/32	5 15/32	7/16	2 3/4	3/8	5/16	1/4	1 1/2	C-2	B & S #4
5	9/16	2 13/16	6 1/8	7/16	2 7/8	7/16	3/8	1/4	1 1/2	D-1	B & S #5 Morse #1
6	3/4	3 11/16	7 1/8	5/8	3	7/16	9/16	1/4	1 1/2	D-1	B & S #7 (2) Morse #2
7	5/8	3 1/8	6 1/2	9/16	2 7/8	1/2	1/2	1/4	1 1/2	D-1	B & S #6
8	31/32	4 3/8	8 3/16	3/4	3 1/4	9/16	11/16	1/4	1 1/2	E-1	B & S #8 Morse #3
9	1 17/64	5	9 1/16	1	3 1/2	9/16	7/8	5/16	2	F-1	B & S #9 (2) Morse #4
10	1 9/32	6	10 3/8	1	3 3/4	5/8	7/8	5/16	2	F-1	B & S #10 (2)
11	1 17/32	5 3/8	10 3/8	1 1/8	4 3/8	5/8	1	5/16	2	F-1	Morse #4 1/2
12	1 17/32	7 1/32	12 5/32	1 1/4	4 1/2	5/8	1 1/8	5/16	2	F-1	B & S #11 (2)
13	1 25/32	6 1/8	11 1/4	1 1/2	4 1/2	5/8	1 1/8	3/8	2	F-1	Morse #5
14	1 53/64	8 3/16	13 5/16	1 1/2	4 1/2	5/8	1 1/8	3/8	2	F-1	B & S #12
15	2 3/32	8 3/4	14	1 1/2	4 5/8	5/8	1 1/8	3/8	2	J-1	B & S #13
16	2 3/8	9 11/32	14 23/32	1 5/8	4 3/4	5/8	1 1/4	3/8	2	J-1	B & S #14
17	2 17/32	8 9/16	13 15/16	1 5/8	4 3/4	5/8	1 3/8	3/8	2	J-1	Morse #6
18	2 41/64	9 27/32	15 5/32	1 3/4	5	5/8	1 3/8	3/8	2	J-1	B & S #15
19	2 29/32	10 1/2	16 1/8	1 3/4	5	5/8	1 3/8	3/8	2	J-1	B & S #16
20	3 5/16	11 5/8	17 1/4	1 3/4	5	5/8	1 3/8	3/8	2	M-1	Morse #7

(Table 55 continues; see Notes at end of table.)

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

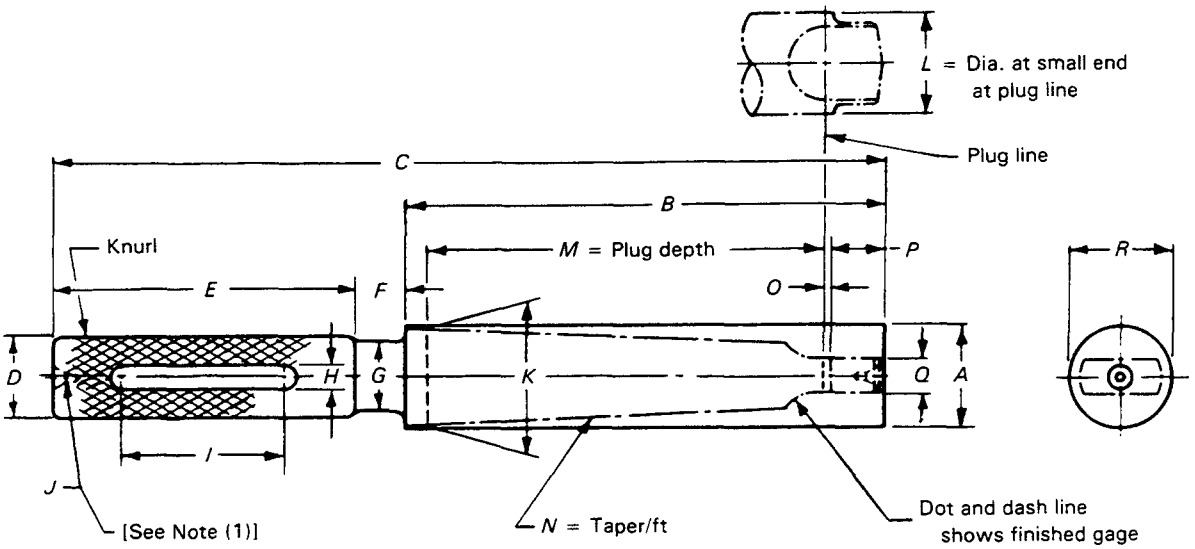


TABLE 55 MACHINE TAPER PLUG GAGES, WITH TANG (CONT'D)

	Finished Dimensions								
Blank No.	K	L	M	N	O	P	Q	R	Used for
1	0.23922	0.2000	15/16	0.502	1/16	3/16	1/8	0.170	B & S #1
2	.29968	.2500	1 3/16	.502	1/16	1/4	5/32	.220	B & S #2
3	.37525	.3125	1 1/2	.502	1/16	5/16	3/16	.282	B & S #3
	.3561	.252	2	.6246	1/16	3/16	5/32	15/64	Morse #0
4	.42065	.3500	1 11/16	.5024	1/16	11/32	7/32	.320	B & S #4 (2)
5	.53883	.4500	2 1/8	.5016	1/16	3/8	1/4	.420	B & S #5 (2)
	.4750	.369	2 1/8	.59858	1/16	9/32	13/64	11/32	Morse #1
6	.7201	.600	2 7/8	.50147	1/16	15/32	5/16	.560	B & S #7 (2)
	.700	.572	2 9/16	.59941	1/16	11/32	1/4	17/32	Morse #2
7	.59961	.5000	2 3/8	.50329	1/16	7/16	9/32	.460	B & S #6
8	.8987	.7500	3 9/16	.50100	1/16	1/2	11/32	.710	B & S #8
	.938	.778	3 3/16	.60235	1/16	15/32	5/16	23/32	Morse #3
9	1.0775	.9001	4 1/4	.50085	1/16	9/16	3/8	.800	B & S #9 (2)
	1.231	1.020	4 1/16	.62326	1/16	17/32	15/32	31/32	Morse #4
10	1.2597	1.04465	5	.51612	1/16	21/32	7/16	1.010	B & S #10 (2)
11	1.500	1.266	4 1/2	.6240	1/16	19/32	9/16	1 13/64	Morse #4 1/2
12	1.4978	1.24995	5 15/16	.5010	1/16	21/32	7/16	1.210	B & S #11 (2)
13	1.748	1.475	5 3/16	.63151	1/16	21/32	5/8	1 13/32	Morse #5
14	1.7968	1.5001	7 1/8	.49973	1/16	3/4	1/2	1.460	B & S #12
15	2.0731	1.75005	7 3/4	.50020	1/16	3/4	1/2	1.710	B & S #13
16	2.3437	2.000	8 1/4	.5000	1/16	27/32	9/16	1.960	B & S #14
17	2.494	2.116	7 1/4	.62565	1/16	31/32	3/4	2	Morse #6
18	2.6146	2.2500	8 3/4	.5000	1/16	27/32	9/16	2.210	B & S #15
19	2.8854	2.500	9 1/4	.5000	1/16	15/16	5/8	2.450	B & S #16
20	3.270	2.750	10	.62400	1/16	1 7/32	1 1/8	2 5/8	Morse #7

GENERAL NOTE: All dimensions are in inches.

NOTES:
(1) See Table 59, p. 86.
(2) See para. 3.8(c).

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

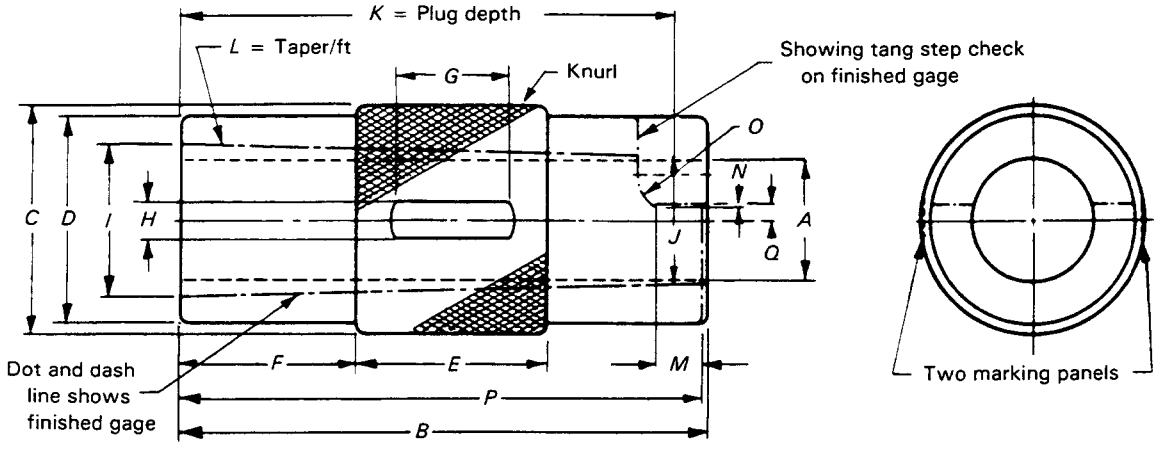


TABLE 56 MACHINE TAPER RING GAGES, WITH TANG

Blank No.	Blank Dimensions								Used for
	A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	
1	11/64	1 7/32	15/16	7/8	1/2	1/4	1/2	1/2	B & S #1
2	7/32	1 17/32	1 1/16	1	1/2	1/2	1/2	1/2	B & S #2
3	7/32	2 1/4	1 1/16	1	1	39/64	5/8	1/2	Morse #0
4	9/32	1 29/32	1 3/16	1 1/8	3/4	9/16	3/4	1/2	B & S #3
5	5/16	2 1/8	1 1/4	1 3/16	3/4	5/32	3/4	1/2	B & S #4 (1)
6	21/64	2 15/32	1 5/16	1 1/4	1	23/32	5/8	1/2	Morse #1
7	27/64	2 19/32	1 3/8	1 5/16	1 1/4	5/32	1 1/8	1/2	B & S #5 (1)
8	15/32	2 29/32	1 1/2	1 7/16	1 3/8	1/2	1 1/8	1/2	B & S #6
9	17/32	2 31/32	1 3/8	1 5/16	1 1/16	15/16	3/4	1/2	Morse #2
10	9/16	3 7/16	1 7/8	1 3/4	1 1/2	1/2	1 1/4	9/16	B & S #7 (1)
11	45/64	4 5/32	2 1/4	2 1/8	2	3/4	1 3/4	9/16	B & S #8
12	47/64	3 23/32	1 11/16	1 9/16	1 3/16	1 1/4	3/4	1/2	Morse #3
13	55/64	4 29/32	2 3/8	2 1/4	2 1/4	7/8	2	5/8	B & S #9 (1)
14	31/32	4 21/32	2 1/4	2 1/8	1 5/8	1 1/2	1	1/2	Morse #4
15	1	5 3/4	2 7/8	2 3/4	2 3/8	1 3/8	2	5/8	B & S #10 (1)
16	1 13/64	6 11/16	3	2 7/8	2 1/2	1 5/8	2	5/8	B & S #11 (1)
17	1 27/64	5 29/32	2 3/4	2 5/8	2 3/8	1 3/4	1 1/2	5/8	Morse #5
18	1 29/64	7 31/32	3 3/8	3 1/4	2 1/2	2	2	5/8	B & S #12
19	1 45/64	8 19/32	3 5/8	3 1/2	2 3/4	2 3/8	2	5/8	B & S #13
20	1 15/16	9 3/16	3 5/8	3 1/2	3 1/4	2 3/4	2	5/8	B & S #14
21	2 3/64	8 5/16	3 5/8	3 1/2	3 3/4	2 1/4	1 1/2	5/8	Morse #6
22	2 3/16	9 23/32	3 3/4	3 5/8	3 3/8	3 1/8	2	5/8	B & S #15
23	2 7/16	10 5/16	4 3/8	4 1/4	3 5/8	3 1/4	2	5/8	B & S #16
24	2 43/64	11 5/16	5	4 7/8	6	2 5/8	1 1/2	5/8	Morse #7

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

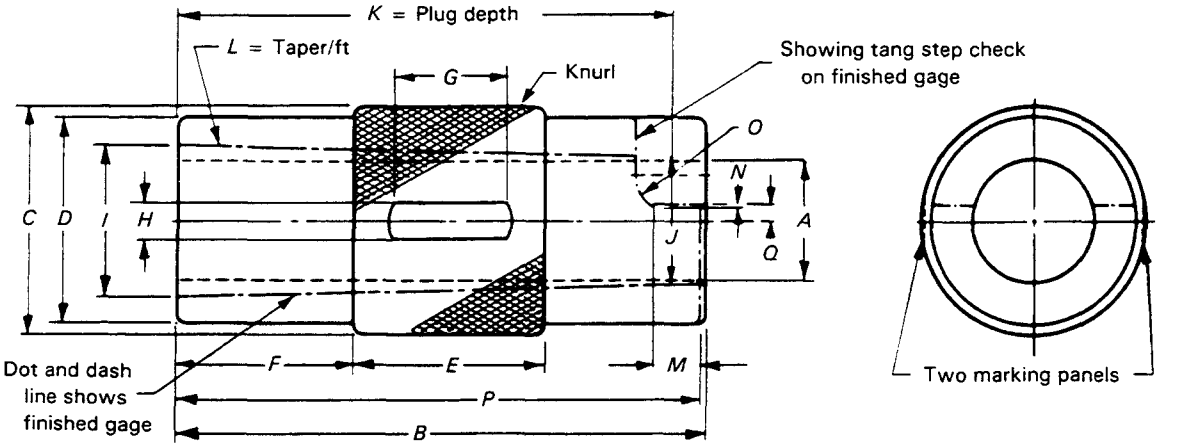


TABLE 56 MACHINE TAPER RING GAGES, WITH TANG (CONT'D)

Blank No.	Finished Dimensions									Used for
	I	*J*	*K*	*L*	*M*	*N*	*O*	*P*	*Q*	
1	0.23922	0.200	15/16	0.502	9/32	1/64	3/16	1 3/16	1/16	B & S #1
2	.29968	.250	1 3/16	.502	11/32	1/64	3/16	1 1/2	5/64	B & S #2
3	.35610	.252	2	.6246	11/32	1/64	3/16	2 7/32	0.078	Morse #0
4	.37525	.3125	1 1/2	.502	13/32	1/64	3/16	1 7/8	3/32	B & S #3
5	.42065	.350	1 11/16	.5024	7/16	1/64	5/16	2 3/32	7/64	B & S #4
6	.4750	.369	2 1/8	.59858	7/16	1/64	3/16	2 7/16	0.1015	Morse #1
7	.53883	.4500	2 1/8	.5016	15/32	1/32	5/16	2 9/16	1/8	B & S #5
8	.59961	.5000	2 3/8	.50329	17/32	1/32	5/16	2 7/8	9/64	B & S #6
9	.700	.572	2 9/16	.59941	1/2	1/32	5/16	2 15/16	0.125	Morse #2
10	.7201	.600	2 7/8	.50147	9/16	1/32	3/8	3 13/32	5/32	B & S #7
11	.8987	.750	3 9/16	.5010	19/32	1/32	3/8	4 1/8	11/64	B & S #8
12	.938	.778	3 3/16	.60235	5/8	1/32	5/16	3 11/16	0.156	Morse #3
13	1.0775	.9001	4 1/4	.50085	21/32	1/32	7/16	4 7/8	3/16	B & S #9
14	1.231	1.020	4 1/16	.62326	11/16	1/32	5/16	4 5/8	0.234	Morse #4
15	1.2597	1.04465	5	.51612	3/4	1/32	7/16	5 23/32	7/32	B & S #10
16	1.4978	1.24995	5 15/16	.5010	3/4	1/32	1/2	6 21/32	7/32	B & S #11
17	1.748	1.475	5 3/16	.63151	13/16	1/32	3/8	5 7/8	0.312	Morse #5
18	1.7968	1.5001	7 1/8	.49973	27/32	1/32	1/2	7 15/16	1/4	B & S #12
19	2.0731	1.75005	7 3/4	.50020	27/32	1/32	5/8	8 9/16	1/4	B & S #13
20	2.3437	2.000	8 1/4	.5000	15/16	1/32	5/8	9 5/32	9/32	B & S #14
21	2.494	2.116	7 1/4	.62565	1 1/4	1/32	3/8	8 1/4	0.375	Morse #6
22	2.6146	2.250	8 3/4	.5000	15/16	1/32	5/8	9 21/32	9/32	B & S #15
23	2.8854	2.500	9 1/4	.5000	1 1/32	1/32	5/8	10 1/4	5/16	B & S #16
24	3.270	2.750	10	.6240	1 3/8	1/32	3/8	11 1/4	0.5625	Morse #7

GENERAL NOTE: All dimensions are in inches.

NOTE:
(1) See para. 3.8(c).

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

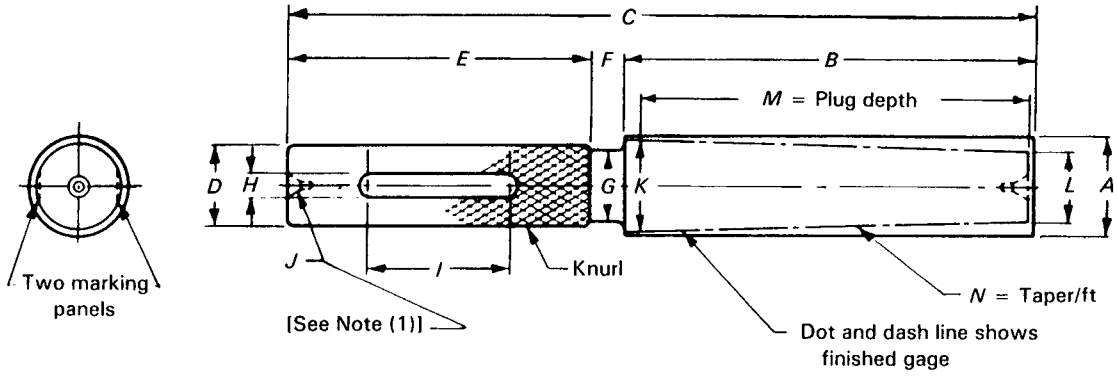


TABLE 57 MACHINE TAPER PLUG GAGES, WITHOUT TANG

	Blank Dimensions											Finished Dimensions			
Blank No.	A	B	C	D	E	F	G	H	I	J (Note (1))	Used for	K	L	M	N
1	21/64	1 1/4	3 5/8	5/16	2	3/8	3/16	3/16	1 1/2	A-1	Jarno #1	0.125	0.100	1/2	0.600
											Jarno #2	.250	.200	1	.600
											ASA #239	.23922	.200	15/16	.502
											ASA #299	.29968	.250	1 3/16	.502
											B & S #1	.23922	.200	15/16	.502
2	13/32	2 1/4	5 1/8	3/8	2 1/2	3/8	1/4	1/4	1 1/2	C-2	B & S #2	.29968	.250	1 3/16	.502
											B & S #3	.37525	.3125	1 1/2	.502
											Jarno #3	.375	.300	1 1/2	.600
											Morse #0	.3561	.252	2	.6246
											ASA #375	.37525	.3125	1 1/2	.502
3	17/32	2 3/8	5 1/2	7/16	2 3/4	3/8	3/8	1/4	1 1/2	C-2	B & S #4 (2)	.42065	.3500	1 11/16	.5024
											Jarno #4	.500	.400	2	.600
											Morse #1	.4750	.369	2 1/8	.59858
											ASA #1	.4750	.369	2 1/8	.59858
4	21/32	2 3/4	6 1/16	5/8	2 7/8	7/16	7/16	1/4	1 1/2	D-1	B & S #5 (2)	.53883	.450	2 1/8	.5016
											B & S #6	.59961	.500	2 3/8	.50329
											Jarno #5	.625	.500	2 1/2	.600
5	23/32	1 1/8	4 5/16	5/8	2 7/8	5/16	3/8	1/4	1 1/2	D-1	Series #10	.625	.375	0.8571	3.500

(Table 57 continues; see Notes at end of table.)

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

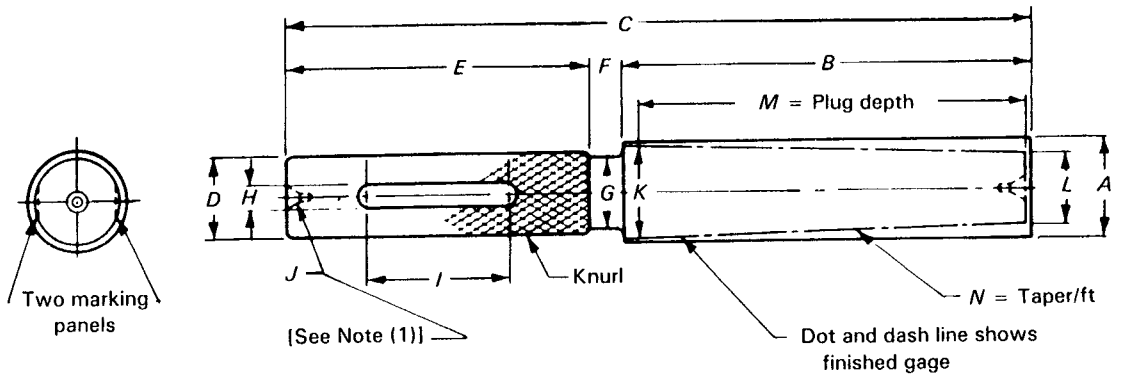


TABLE 57 MACHINE TAPER PLUG GAGES, WITHOUT TANG (CONT'D)

Blank No.	Blank Dimensions A	B	C	D	E	F	G	H	I	J [Note (1)]	Used for	Finished Dimensions K	L	M	N
6	25/32	3 1/4	6 11/16	5/8	3	7/16	9/16	1/4	1 1/2	D-1	B & S #7 (2)	.7201	.600	2 7/8	0.50147
											Jarno #6	.750	.600	3	.600
											Morse #2	.700	.572	2 9/16	.59941
											ASA #2	.7000	.5720	2 9/16	.59941
7	31/32	1 9/16	4 15/16	3/4	3	3/8	1/2	1/4	1 1/2	F-1	Series #20	.875	.500	1.2857	3.500
8	31/32	3 15/16	7 11/16	3/4	3 1/4	1/2	5/8	1/4	1 1/2	E-1	B & S #8	.8987	.750	3 9/16	0.5010
											Jarno #7	.875	.700	3 1/2	.600
											Morse #3	.938	.778	3 3/16	.60235
											ASA #3	.9380	.77805	3 3/16	.60235
9	1 7/64	4 1/2	8 1/2	1	3 1/2	1/2	7/8	5/16	2	E-1	B & S #9 (2)	1.0775	.9001	4 1/4	.50085
											Jarno #8	1.000	.800	4	.600
10	1 9/32	5 1/4	9 1/2	1	3 3/4	1/2	7/8	5/16	2	F-1	B & S #10 (2)	1.2597	1.04465	5	.51612
											Jarno #9	1.125	.900	4 1/2	.600
											Jarno #10	1.250	1.000	5	.600
											Morse #4	1.231	1.020	4 1/16	.62326
											ASA #4	1.2310	1.020	4 1/16	.62326
11	1 11/32	2 5/16	6 15/16	1	4 1/8	1/2	11/16	1/4	1 1/2	F-1	Series #30	1.250	.6877	1.928	3.500
12	1 13/32	5 13/16	10 9/16	1 1/8	4 1/4	1/2	1	5/16	2	F-1	Jarno #11	1.375	1.100	5 1/2	0.600
											ASA #4 1/2	1.5000	1.2660	4 1/2	.62400
13	1 17/32	4 3/4	9 5/8	1 1/8	4 3/8	1/2	1	5/16	2	F-1	Morse #4 1/2	1.5000	1.266	4 1/2	.6240

(See Notes at end of table.)

Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

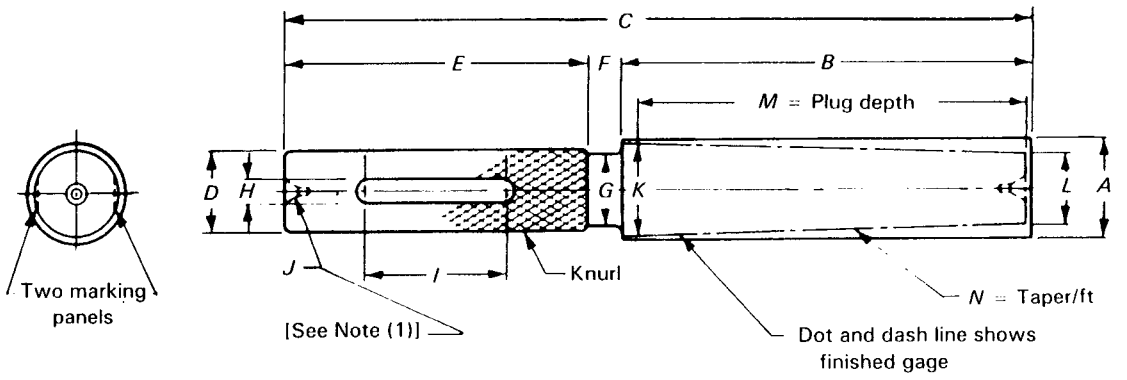


TABLE 57 MACHINE TAPER PLUG GAGES, WITHOUT TANG (CONT'D)

	Blank Dimensions											Finished Dimensions			
Blank No.	A	B	C	D	E	F	G	H	I	J [Note (1)]	Used for	K	L	M	N
14	1 21/32	6 3/4	11 3/4	1 1/4	4 1/2	1/2	1 3/16	5/16	2	F-1	B & S #11 (2)	1.4978	1.24995	5 15/16	.5010
											Jarno #12	1.500	1.200	6	.600
											Jarno #13	1.625	1.300	6 1/2	.600
15	1 25/32	5 9/16	10 11/16	1 1/2	4 1/2	5/8	1 3/8	3/8	2	F-1	Morse #5	1.748	1.475	5 3/16	.63151
											ASA #5	1.7480	1.475	5 3/16	.63151
16	1 27/32	2 15/16	7 15/16	1 1/2	4 1/2	1/2	1	5/16	2	F-1	Series #40	1.750	1.000	2.5715	3.500
17	1 29/32	7 3/4	12 7/8	1 1/2	4 1/2	5/8	1 3/8	3/8	2	F-1	B & S #12	1.7968	1.5001	7 1/8	0.49973
											Jarno #14	1.750	1.400	7	.600
											Jarno #15	1.875	1.500	7 1/2	.600
18	2 1/64	5	10 1/4	1 1/2	4 5/8	5/8	1 3/8	5/16	2	J-1	ASA #200	2.000	1.70312	4 3/4	.7500
19	2 5/32	8 3/4	14	1 1/2	4 5/8	5/8	1 3/8	3/8	2	J-1	B & S #13	2.0731	1.75005	7 3/4	.50020
											Jarno #16	2.000	1.600	8	.600
											Jarno #17	2.125	1.700	8 1/2	.600
20	2 9/32	9 1/2	14 7/8	1 5/8	4 3/4	5/8	1 3/8	3/8	2	J-1	Jarno #18	2.250	1.800	9	.600
21	2 3/8	8 5/8	14	1 5/8	4 3/4	5/8	1 3/8	3/8	2	J-1	B & S #14	2.3437	2.000	8 1/4	.500
22	2 13/32	10	15 3/8	1 5/8	4 3/4	5/8	1 3/8	3/8	2	J-1	Jarno #19	2.375	1.900	9 1/2	.600
23	2 33/64	5 1/2	10 7/8	1 5/8	4 3/4	5/8	1 3/8	5/16	2	J-1	ASA #250	2.5000	2.1562	5 1/2	.7500
24	2 17/32	7 5/8	13	1 5/8	4 3/4	5/8	1 3/8	3/8	2	J-1	Morse #6	2.494	2.116	7 1/4	.62565
											ASA #6	2.494	2.116	7 1/4	.62565
25	2 17/32	10 1/2	16 1/8	1 3/4	5	5/8	1 3/8	3/8	2	J-1	Jarno #20	2.500	2.000	10	.600

(See Notes at end of table.)

Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

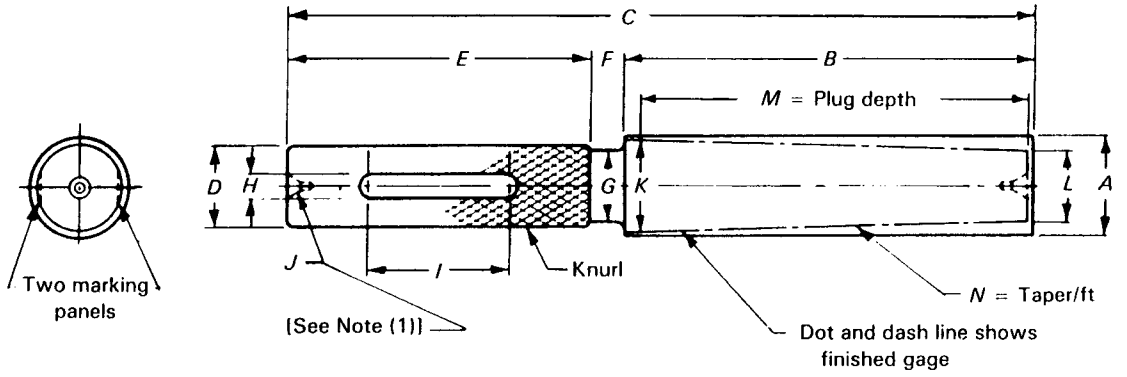


TABLE 57 MACHINE TAPER PLUG GAGES, WITHOUT TANG (CONT'D)

	Blank Dimensions											Finished Dimensions			
Blank No.	A	B	C	D	E	F	G	H	I	J [Note (1)]	Used for	K	L	M	N
26	2 41/64	9 1/8	14 3/4	1 3/4	5	5/8	1 3/8	3/8	2	J-1	B & S #15	2.6146	2.2500	8 3/4	.500
27	2 55/64	4 9/16	10 3/16	1 3/4	5	5/8	1 1/4	5/16	2	J-1	Series #50	2.750	1.562	4.073	3.500
28	2 29/32	9 5/8	15 1/4	1 3/4	5	5/8	1 3/8	3/8	2	J-1	B & S #16	2.8854	2.500	9 1/4	0.500
29	3 1/64	6 1/2	12 1/8	1 3/4	5	5/8	1 3/8	5/16	2	M-1	ASA #300	3.0000	2.6093	6 1/4	.75000
30	3 3/16	10 1/8	15 7/8	1 3/4	5	3/4	1 1/2	3/8	2	M-1	B & S #17	3.1562	2.7500	9 3/4	.500
31	3 5/16	10 3/8	16	1 3/4	5	5/8	1 1/2	3/8	2	M-1	Morse #7	3.270	2.750	10	.624
											ASA #7	3.270	2.750	10	.6240
32	3 15/32	10 5/8	16 5/8	1 7/8	5 1/4	3/4	1 1/2	3/8	2	M-1	B & S #18	3.4271	3.000	10 1/4	.500
33	3 33/64	7 1/4	13 1/4	1 7/8	5 1/4	3/4	1 1/2	5/16	2	M-1	ASA #350	3.5000	3.0625	7	.75000
34	4 1/64	8	14	1 7/8	5 1/4	3/4	1 1/2	5/16	2	M-1	ASA #400	4.000	3.5156	7 3/4	.7500
35	4 33/64	8 3/4	14 3/4	1 7/8	5 1/4	3/4	1 1/2	5/16	2	M-1	ASA #450	4.500	3.9687	8 1/2	.7500
36	5 1/64	9 1/2	15 1/2	1 7/8	5 1/4	3/4	1 1/2	5/16	2	M-1	ASA #500	5.000	4.4208	9 1/4	.7500
37	4 3/8	6 5/8	12 5/8	1 7/8	5 1/4	3/4	1 1/2	5/16	2	M-1	Series #60	4.250	2.3906	6 3/8	3.500

GENERAL NOTE: All dimensions are in inches.

NOTES:
(1) See Table 59, p. 86.
(2) See para 3.8(c).

Not for Resale

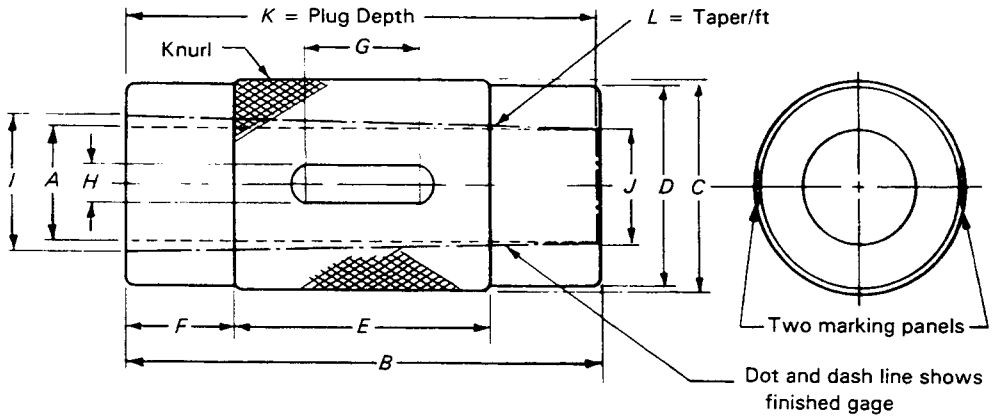


TABLE 58 MACHINE TAPER RING GAGES, WITHOUT TANG

Blank No.	Blank Dimensions, in.								Used for	Finished Dimensions, in.			
	A	B	C	D	E	F	G	H		I	J	K	L
1	5/64	17/32	3/4	. . .	17/32	. . .	17/32	3/8	Jarno #1	0.125	0.100	1/2	0.600
2	3/16	1 1/32	15/16	. . .	1 1/32	. . .	1 1/32	1/2	B & S #1	.23922	.200	15/16	.502
									ASA #239	.23922	.200	15/16	.502
									Jarno #2	.250	.200	1	.600
3	15/64	1 7/32	1 1/16	. . .	1 7/32	. . .	1 7/32	1/2	B & S #2	.29968	.250	1 3/16	.502
									ASA #299	.29968	.250	1 3/16	.502
4	15/64	2 1/32	1 1/16	1	1	1/2	1	1/2	Morse #0	.3561	.252	2	.6246
5	9/32	1 17/32	1 3/16	1 1/8	1	1/4	1	1/2	B & S #3	.37525	.3125	1 1/2	.502
									Jarno #3	.375	.300	1 1/2	.600
									ASA #375	.37525	.3125	1 1/2	.502
6	21/64	1 23/32	1 5/16	1 1/4	1	1 1/32	1	1/2	B & S #4 (1)	.42065	.3500	1 11/16	.5024
7	23/64	2 5/32	1 1/4	1 3/16	1	9/16	1	1/2	Morse #1	.4750	.369	2 1/8	.59858
									ASA #1	.4750	.369	2 1/8	.59858
8	23/64	1 1/16	1 1/4	. . .	1 1/16	. . .	1 1/16	1/2	Series #10	.625	.375	0.8571	3.500
9	3/8	2 5/32	1 1/4	1 3/16	1 1/2	5/16	1	1/2	B & S #5 (1)	.53883	.450	2 1/8	0.5016
									Jarno #4	.500	.400	2	.600
10	31/64	2 19/32	1 1/2	1 7/16	1 1/2	17/32	1 1/8	1/2	B & S #6	.59961	.500	2 3/8	.50329
									Jarno #5	.625	.500	2 1/2	.600
									Morse #2	.700	.572	2 9/16	.59941
									ASA #2	.700	.572	2 9/16	.59941
11	31/64	1 9/16	1 1/2	1 7/16	7/8	7/32	7/8	1/2	Series #20	.875	.500	1.2857	3.500
12	37/64	3 1/32	1 7/8	1 3/4	1 3/4	5/8	1 1/4	1/2	B & S #7 (1)	.7201	.600	2 7/8	0.50147
									Jarno #6	.750	.600	3	.600
13	43/64	2 5/16	2 3/8	2 1/4	1 1/8	3/8	1	1/2	Series #30	1.250	.6875	1.928	3.500
14	11/16	3 19/32	2 1/8	2	2	25/32	1 3/4	9/16	B & S #8	.8987	.750	3 9/16	0.5010
									Jarno #7	.875	.700	3 1/2	.600
15	49/64	3 7/32	1 11/16	1 9/16	1 7/16	7/8	1	1/2	Morse #3	.938	.778	3 3/16	.60235
									ASA #3	.938	.77805	3 3/16	.60235
16	25/32	4 1/32	2 1/4	2 1/8	2 1/4	7/8	2	5/8	Jarno #8	1.000	.800	4	.600
17	7/8	4 17/32	2 3/8	2 1/4	2 1/4	1 1/8	2	5/8	B & S #9 (1)	1.0775	.9001	4 1/4	.50085
									Jarno #9	1.125	.900	4 1/2	.600

(Table 58 continues; see Notes at end of table.)

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

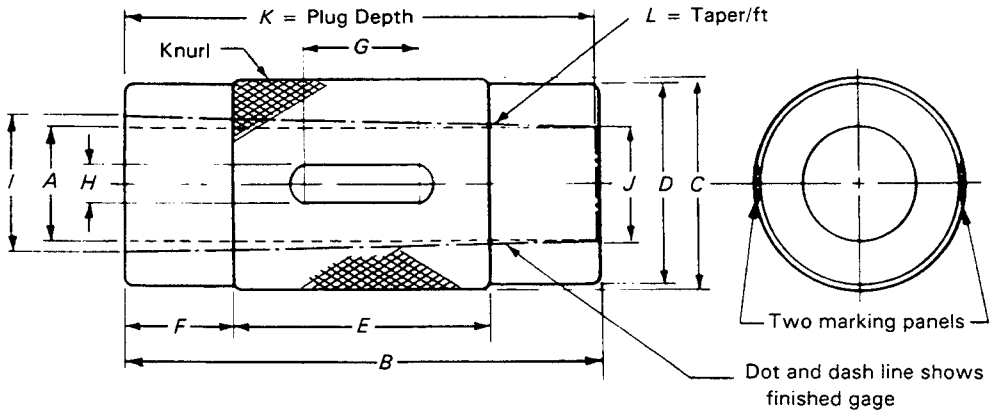


TABLE 58 MACHINE TAPER RING GAGES, WITHOUT TANG (CONT'D)

Blank No.	Blank Dimensions, in.								Used for	Finished Dimensions, in.			
	A	*B*	*C*	*D*	*E*	*F*	*G*	*H*		*I*	*J*	*K*	*L*
18	61/64	2 15/16	3	2 7/8	1 5/8	17/32	1 3/8	1/2	Series #40	1.750	1.000	2.5715	3.500
19	63/64	5 1/32	2 1/2	2 3/8	3	1	2	5/8	B & S #10 (1)	1.2597	1.04465	5	0.51612
									Jarno #10	1.250	1.000	5	.600
20	1	4 3/32	2 7/8	2 3/4	1 3/4	1 5/32	1 1/2	1/2	Morse #4	1.231	1.020	4 1/16	.62326
									ASA #4	1.231	1.020	4 1/16	.62326
21	1 5/64	5 17/32	2 1/2	2 3/8	3	1 1/4	2	5/8	Jarno #11	1.375	1.100	5 1/2	.600
22	1 3/16	6 1/32	2 3/4	2 5/8	3 1/4	1 3/8	2	5/8	B & S #11 (1)	1.4978	1.24995	5 15/16	.5010
									Jarno #12	1.500	1.200	6	.600
23	1 1/4	4 17/32	2 3/8	2 1/4	2	1 1/3	1 1/2	1/2	Morse #4 1/2	1.500	1.266	4 1/2	.6240
									ASA #4 1/2	1.500	1.266	4 1/2	.6240
24	1 9/32	6 17/32	3	2 7/8	4	1 1/4	2	5/8	Jarno #13	1.625	1.300	6 1/2	.600
25	1 3/8	7 1/32	3 1/4	3 1/8	4	1 1/2	2	5/8	Jarno #14	1.750	1.400	7	.600
26	1 29/64	5 7/32	2 3/4	2 5/8	2 3/16	1 1/2	1 1/2	1/2	Morse #5	1.748	1.475	5 3/16	.63151
									ASA #5	1.748	1.475	5 3/16	.63151
27	1 31/64	7 17/32	3 3/8	3 1/4	4	1 3/4	2	5/8	B & S #12	1.7968	1.5001	7 1/8	.49975
									Jarno #15	1.875	1.500	7 1/2	.600
28	1 35/64	4 9/16	4 1/4	4 1/8	2 3/4	3/8	2	5/8	Series #50	2.750	1.562	4.073	3.500
29	1 37/64	8 1/32	3 3/8	3 1/4	5	1 1/2	2	5/8	Jarno #16	2.000	1.600	8	0.600
30	1 11/16	8 17/32	3 5/8	3 1/2	5	1 3/4	2	5/8	Jarno #17	2.125	1.700	8 1/2	.600
31	1 11/16	4 25/32	3 1/8	3 1/16	2	1 3/8	1 1/2	1/2	ASA #200	2.000	1.70312	4 3/4	.7500
32	1 47/64	7 25/32	3 3/8	3 1/4	3 3/8	2 3/16	2	5/8	B & S #13	2.0731	1.75005	7 3/4	.50020
33	1 25/32	9 1/32	3 3/4	3 5/8	5	2	2	5/8	Jarno #18	2.250	1.800	9	.600
34	1 7/8	9 17/32	3 5/8	3 1/2	5 1/2	2	2	5/8	Jarno #19	2.375	1.900	9 1/2	.600
35	1 63/64	8 9/32	3 5/8	3 1/2	4 1/2	1 7/8	2	5/8	B & S #14	2.3437	2.000	8 1/4	.500
36	1 63/64	10 1/32	3 3/4	3 5/8	6	2	2	5/8	Jarno #20	2.500	2.000	10	.600
37	2 3/32	7 5/16	3 1/2	3 3/8	3 3/4	1 3/4	1 1/2	1/2	Morse #6	2.494	2.116	7 1/4	.62565
									ASA #6	2.494	2.116	7 1/4	.62565
38	2 9/64	5 9/16	3 3/4	3 11/16	2 1/2	1 1/2	1 1/2	1/2	ASA #250	2.500	2.1562	5 1/2	.7500
39	2 15/64	8 13/16	4	3 7/8	3 3/4	2 1/2	2	1/2	B & S #15	2.6146	2.2500	8 3/4	.500
40	2 23/64	6 1/2	5 3/4	5 5/8	3 1/2	1 15/32	2	5/8	Series #60	4.250	2.3906	6 5/8	3.500
41	2 31/64	9 5/16	4 1/2	4 3/8	4	2 5/8	2	5/8	B & S #16	2.8854	2.500	9 1/4	0.500
42	2 19/32	6 5/16	4 1/4	4 3/16	3 1/4	1 1/2	1 1/2	1/2	ASA #300	3.000	2.6093	6 1/4	.7500

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

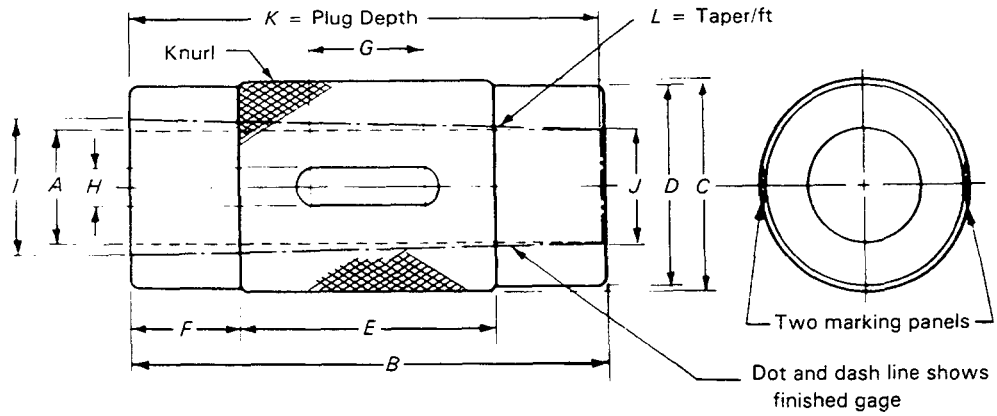


TABLE 58 MACHINE TAPER RING GAGES, WITHOUT TANG (CONT'D)

Blank No.	Blank Dimensions, in.								Used for	Finished Dimensions, in.			
	A	*B*	*C*	*D*	*E*	*F*	*G*	*H*		*I*	*J*	*K*	*L*
43	2 47/64	10 1/16	5	4 7/8	4	3	2	5/8	B & S #17	3.1562	2.7500	9 3/4	0.500
									Morse #7	3.270	2.750	10	.624
									ASA #7	3.270	2.750	10	.624
44	2 43/64	10 5/16	5 1/2	5 3/8	4	3 1/8	2	5/8	B & S #18	3.4271	3.000	10 1/4	.500
45	3 3/64	7 1/16	4 3/4	4 11/16	3 1/2	1 3/4	1 1/2	1/2	ASA #350	3.500	3.0625	7	.7500
46	3 1/2	7 13/16	5 1/4	5 3/16	4	1 7/8	2	5/8	ASA #400	4.000	3.5156	7 3/4	.7500
47	3 61/64	8 9/16	5 3/4	5 11/16	5	1 3/4	2	5/8	ASA #450	4.500	3.9687	8 1/2	.7500
48	4 13/32	9 5/16	6 1/4	6 3/16	5 1/2	1 7/8	2	5/8	ASA #500	5.000	4.4208	9 1/4	.7500

GENERAL NOTE: All dimensions are in inches.

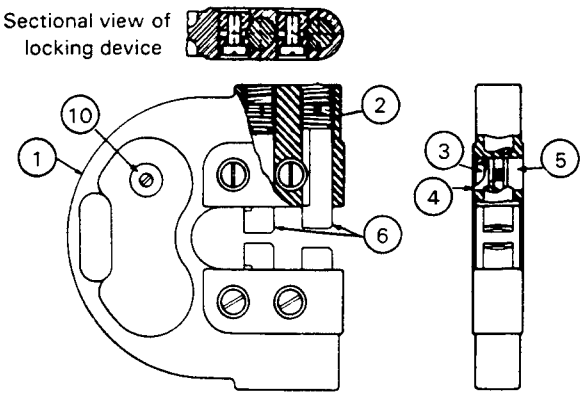
NOTE:
(1) See para. 3.8(c).

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

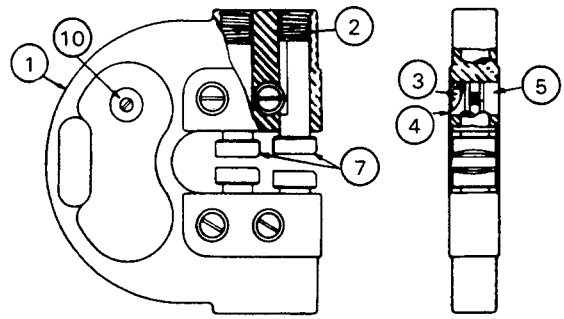
TABLE 59 SIZES OF COMBINATION DRILLS AND COUNTERSINKS FOR MACHINE TAPER PLUG GAGES

Size	Diameter of Body, in.	Diameter of Drill Point, in.
A1	1/8	3/64
C2	13/64	1/16
D1	15/64	5/64
E1	0.300	3/32
F1	7/16	5/32
J1	1/2	7/32
M1	5/8	7/32

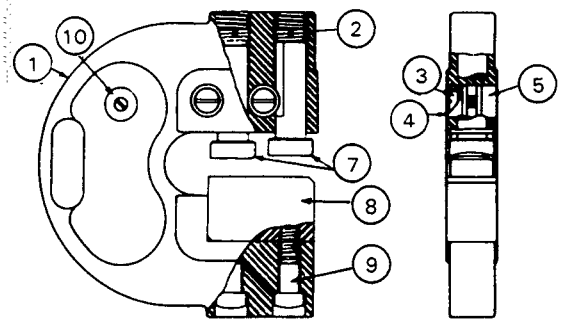
Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS Not for Resale



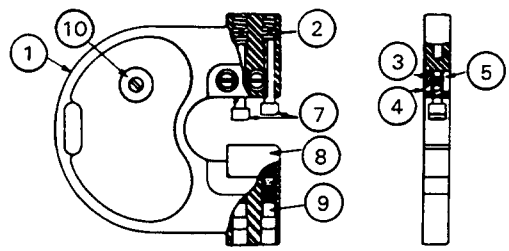
Model A Range — 0 in. to 12 in., incl.



Model B Range — 1/2 in. to 11-1/4 in., incl.



Model C Range — 0 in. to 11-5/8 in., incl.

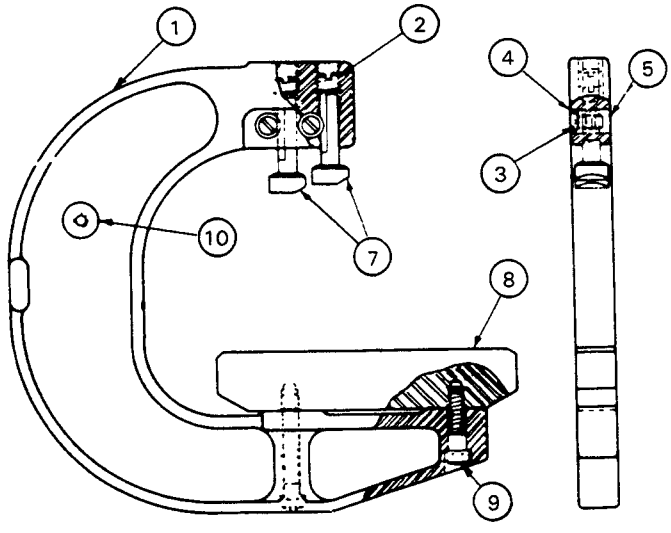


Model MC Range — 0 in. to 0.760 in., incl.

1. Frame
2. Adjusting screw
3. Locking screw
4. Locking bushing
5. Locking nut
6. Gaging pin
7. Gaging button
8. Anvil
9. Anvil screw
10. Marking disk

FIG. 10 ADJUSTABLE SNAP GAGES, DETAILS OF CONSTRUCTION — MODELS A, B, C, AND MC

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale



Model E Range — 0 in. to 5-11/16 in., incl.

(1) Frame	(4) Locking bushing	(8) Anvil
(2) Adjusting screw	(5) Locking nut	(9) Anvil screw
(3) Locking screw	(7) Gaging button	(10) Marking disk

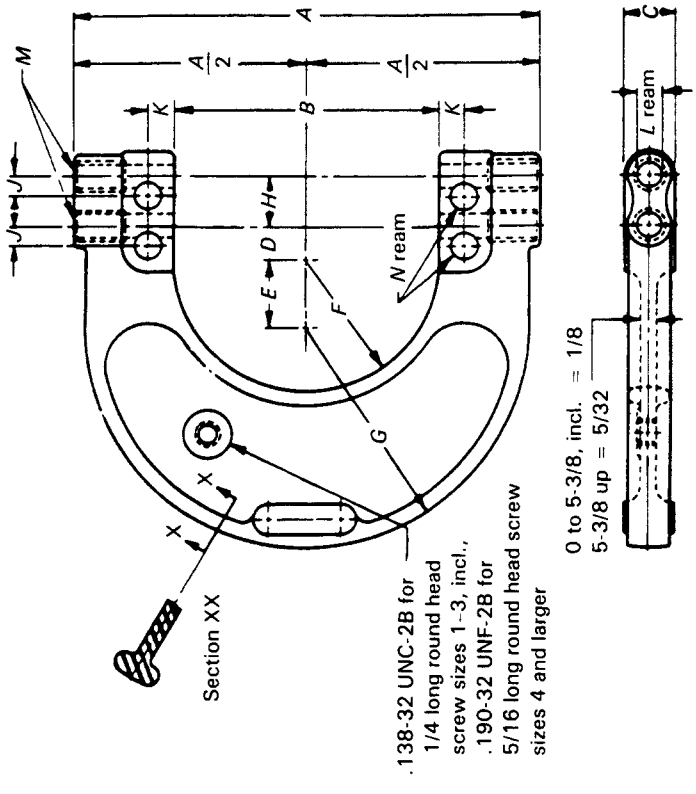
FIG. 11 ADJUSTABLE SNAP GAGES, DETAILS OF CONSTRUCTION — MODEL E

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Table 60 begins on next page.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS Not for Resale

TABLE 60



Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

TABLE 60 PLAIN ADJUSTABLE SNAP GAGES, MODELS A AND B — DETAILS OF FRAME

Model A			Model B																		
	Range			Range										J			L			N	
Symbol	Above	To and Including	Symbol	Above	To and Including	Frame No.	A	B	C	D	E	F	G	H	Max.	Min.	K	Max.	Min.	M	Max.	Min.
A-1	0	1/2	...	...	...	1	3	5/8	31/64	3/8	3/16	5/16	1 3/8	19/32	0.258	0.256	5/16	0.3128	0.3125	0.3325-40 UNS-3B	0.3135	0.3125
A-2	1/2	1	...	...	...	2	3 1/2	1 1/8	31/64	3/8	5/16	9/16	1 5/8	19/32	.258	.256	5/16	.3128	.3125	.3325-40 UNS-3B	.3135	.3125
A-3	1	1 1/2	B-3	1/2	1	3	4	1 5/8	31/64	3/8	7/16	13/16	1 7/8	19/32	.258	.256	5/16	.3128	.3125	.3325-40 UNS-3B	.3135	.3125
A-4	1 1/2	2	B-4	1	1 1/2	4	4 1/2	2 1/8	31/64	3/8	9/16	1 1/16	2 1/8	19/32	.258	.256	5/16	.3128	.3125	.3325-40 UNS-3B	.3135	.3125
A-5	2	2 1/2	B-5	1 1/2	2	5	5	2 5/8	31/64	3/8	11/16	1 5/16	2 3/8	19/32	.258	.256	5/16	.3128	.3125	.3325-40 UNS-3B	.3135	.3125
A-6	2 1/2	3	B-6	2	2 1/2	6	5 1/2	3 1/8	31/64	3/8	13/16	1 9/16	2 5/8	19/32	.258	.256	5/16	.3128	.3125	.3325-40 UNS-3B	.3135	.3125
A-7	3	3 3/4	B-7	2 1/2	3 1/8	7	6 7/8	3 15/16	39/64	7/16	7/8	1 31/32	3 5/16	23/32	.311	.309	3/8	.3753	.3750	.3950-40 UNS-3B	.376	.375
A-8	3 3/4	4 1/2	B-8	3 1/3	3 7/8	8	7 5/8	4 11/16	39/64	7/16	1	2 11/32	3 11/16	23/32	.311	.309	3/8	.3753	.3750	.3950-40 UNS-3B	.376	.375
A-9	4 1/2	5 1/4	B-9	3 7/8	4 5/8	9	8 3/8	5 7/16	39/64	7/16	1 1/8	2 23/32	4 1/16	23/32	.311	.309	3/8	.3753	.3750	.3950-40 UNS-3B	.376	.375
A-10	5 1/4	6	B-10	4 5/8	5 3/8	10	9 1/8	6 3/16	39/64	7/16	1 1/4	3 3/32	4 7/16	23/32	.311	.309	3/8	.3753	.3750	.3950-40 UNS-3B	.376	.375
A-11	6	7	B-11	5 3/8	6 1/4	11	10 3/4	7 1/4	47/64	1/2	1 3/8	3 5/8	5 1/4	27/32	.365	.363	7/16	.4378	.4375	.4575-40 UNS-3B	.4385	.4375
A-12	7	8	B-12	6 1/4	7 1/4	12	11 3/4	8 1/4	47/64	1/2	1 1/2	4 1/8	5 3/4	27/32	.365	.363	7/16	.4378	.4375	.4575-40 UNS-3B	.4385	.4375
A-13	8	9	B-13	7 1/4	8 1/4	13	12 3/4	9 1/4	47/64	1/2	1 5/8	4 5/8	6 1/4	27/32	.365	.363	7/16	.4378	.4375	.4575-40 UNS-3B	.4385	.4375
A-14	9	10	B-14	8 1/4	9 1/4	14	13 3/4	10 1/4	47/64	1/2	1 3/4	5 1/8	6 3/4	27/32	.365	.363	7/16	.4378	.4375	.4575-40 UNS-3B	.4385	.4375
A-15	10	11	B-15	9 1/4	10 1/4	15	14 3/4	11 1/4	47/64	1/2	1 7/8	5 5/8	7 1/4	27/32	.365	.363	7/16	.4378	.4375	.4575-40 UNS-3B	.4385	.4375
A-16	11	12	B-16	10 1/4	11 1/4	16	15 3/4	12 1/4	47/64	1/2	2	6 1/8	7 3/4	27/32	.365	.363	7/16	.4378	.4375	.4575-40 UNS-3B	.4385	.4375

GENERAL NOTE: All dimensions except *M* are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

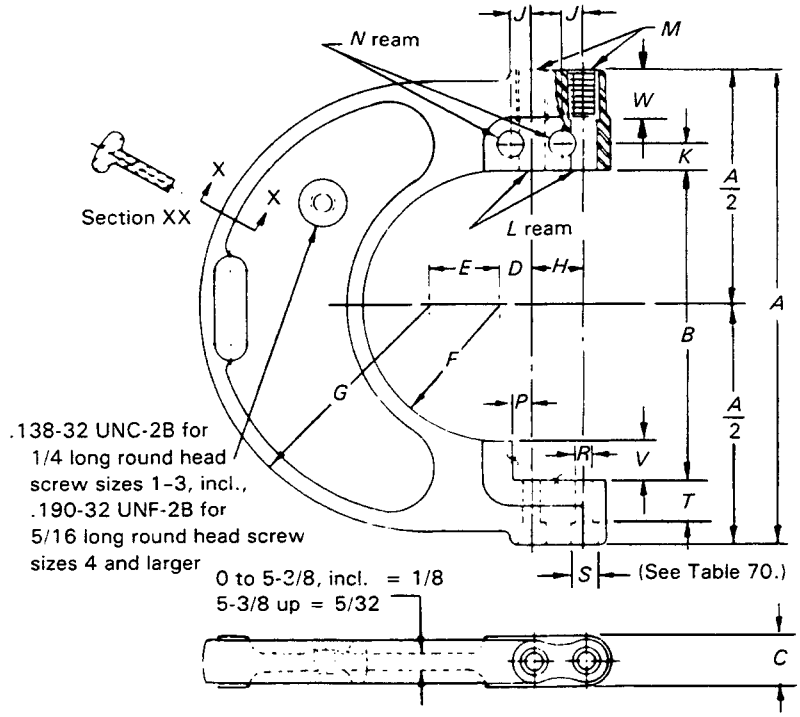


TABLE 61 PLAIN ADJUSTABLE SNAP GAGES, MODEL C — DETAILS OF FRAME

PART A (See Part B for other dimensions.)

Model C					Model C				
	Range					Range			
Symbol	Above	To and Including	Height of Anvil	Frame No.	Symbol	Above	To and Including	Height of Anvil	Frame No.
C-1	0	1/4	1/2	1	C-9	4 3/16	4 9/16	15/16	9
C-2	1/4	1/2	3/4	2	C-9X	4 9/16	4 15/16	9/16	
C-2X	1/2	3/4	1/2						
C-3	3/4	1	3/4	3	C-10	4 15/16	5 5/16	15/16	10
C-3X	1	1 1/4	1/2		C-10X	5 5/16	5 11/16	9/16	
					C-11	5 11/16	6 1/8	1 1/8	11
					C-11X	6 1/8	6 5/8	5/8	
C-4	1 1/4	1 1/2	3/4	4	C-12	6 5/8	7 1/8	1 1/8	12
C-4X	1 1/2	1 3/4	1/2		C-12X	7 1/8	7 5/8	5/8	
C-5	1 3/4	2	3/4	5					
C-5X	2	2 1/4	1/2						
C-6	2 1/4	2 1/2	3/4	6	C-13	7 5/8	8 1/8	1 1/8	13
C-6X	2 1/2	2 3/4	1/2		C-13X	8 1/8	8 5/8	5/8	
					C-14	8 5/8	9 1/8	1 1/8	14
					C-14X	9 1/8	9 5/8	5/8	
C-7	2 3/4	3 1/16	15/16	7	C-15	9 5/8	10 1/8	1 1/8	15
C-7X	3 1/16	3 7/16	9/16		C-15X	10 1/8	10 5/8	5/8	
C-8	3 7/16	3 13/16	15/16	8	C-16	10 5/8	11 1/8	1 1/8	16
C-8X	3 13/16	4 3/16	9/16		C-16X	11 1/8	11 5/8	5/8	

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

TABLE 61 PLAIN ADJUSTABLE SNAP GAGES, MODEL C — DETAILS OF FRAME (CONT'D)

PART B (See Part A for symbols, range, etc.)

Frame No.	A	B	C	D	E	F	G	H	J		K	L		M	N		R		S	T	P	V	W
									Max.	Min.		Max.	Min.		Max.	Min.	Max.	Min.					
1	3	1 1/16	31/64	3/8	3/16	5/16	1 3/8	19/32	0.258	0.256	5/16	0.3128	0.3125	0.3325-40 UNS-3B	0.3135	0.3125	0.1927	0.1900	3/8	1/2	1/4	7/16	5/8
2	3 1/2	1 9/16	31/64	3/8	5/16	9/16	1 5/8	19/32	.258	.256	5/16	.3128	.3125	.3325-40 UNS-3B	.3135	.3125	.1927	.1900	3/8	1/2	1/4	7/16	5/8
3	4	2 1/16	31/64	3/8	7/16	13/16	1 7/8	19/32	.258	.256	5/16	.3128	.3125	.3325-40 UNS-3B	.3135	.3125	.1927	.1900	3/8	1/2	1/4	7/16	5/8
4	4 1/2	2 9/16	31/64	3/8	9/16	1 1/16	2 1/8	19/32	.258	.256	5/16	.3128	.3125	.3325-40 UNS-3B	.3135	.3125	.1927	.1900	3/8	1/2	1/4	7/16	5/8
5	5	3 1/16	31/64	3/8	11/16	1 5/16	2 3/8	19/32	.258	.256	5/16	.3128	.3125	.3325-40 UNS-3B	.3135	.3125	.1927	.1900	3/8	1/2	1/4	7/16	5/8
6	5 1/2	3 9/16	31/64	3/8	13/16	1 9/16	2 5/8	19/32	.258	.256	5/16	.3128	.3125	.3325-40 UNS-3B	.3135	.3125	.1927	.1900	3/8	1/2	1/4	7/16	5/8
7	6 7/8	4 13/32	39/64	7/16	7/8	1 31/32	3 5/16	23/32	.311	.309	3/8	.3753	.375	.3950-40 UNS-3B	.3760	.3750	.2531	.2500	7/16	21/32	5/16	15/32	3/4
8	7 5/8	5 5/32	39/64	7/16	1	2 11/32	3 23/32	23/32	.311	.309	3/8	.3753	.375	.3950-40 UNS-3B	.3760	.3750	.2531	.2500	7/16	21/32	5/16	15/32	3/4
9	8 3/8	5 29/32	39/64	7/16	1 1/8	2 23/32	4 3/32	23/32	.311	.309	3/8	.3753	.375	.3950-40 UNS-3B	.3760	.3750	.2531	.2500	7/16	21/32	5/16	15/32	3/4
10	9 1/8	6 21/32	39/64	7/16	1 1/4	3 3/32	4 7/16	23/32	.311	.309	3/8	.3753	.375	.3950-40 UNS-3B	.3760	.3750	.2531	.2500	7/16	21/32	5/16	15/32	3/4
11	10 3/4	7 3/4	47/64	1/2	1 3/8	3 5/8	5 1/4	27/32	.365	.363	7/16	.4378	.4375	.4575-40 UNS-3B	.4385	.4375	.3158	.3125	17/32	13/16	3/8	1/2	1
12	11 3/4	8 3/4	47/64	1/2	1 1/2	4 1/8	5 3/4	27/32	.365	.363	7/16	.4378	.4375	.4575-40 UNS-3B	.4385	.4375	.3158	.3125	17/32	13/16	3/8	1/2	1
13	12 3/4	9 3/4	47/64	1/2	1 5/8	4 5/8	6 1/4	27/32	.365	.363	7/16	.4378	.4375	.4575-40 UNS-3B	.4385	.4375	.3158	.3125	17/32	13/16	3/8	1/2	1
14	13 3/4	10 3/4	47/64	1/2	1 3/4	5 1/8	6 3/4	27/32	.365	.363	7/16	.4378	.4375	.4575-40 UNS-3B	.4385	.4375	.3158	.3125	17/32	13/16	3/8	1/2	1
15	14 3/4	11 3/4	47/64	1/2	1 7/8	5 5/8	7 1/4	27/32	.365	.363	7/16	.4378	.4375	.4575-40 UNS-3B	.4385	.4375	.3158	.3125	17/32	13/16	3/8	1/2	1
16	15 3/4	12 3/4	47/64	1/2	2	6 1/8	7 3/4	27/32	.365	.363	7/16	.4378	.4375	.4575-40 UNS-3B	.4385	.4375	.3158	.3125	17/32	13/16	3/8	1/2	1

GENERAL NOTE: All dimensions except *M* are in inches.

Not for Resale

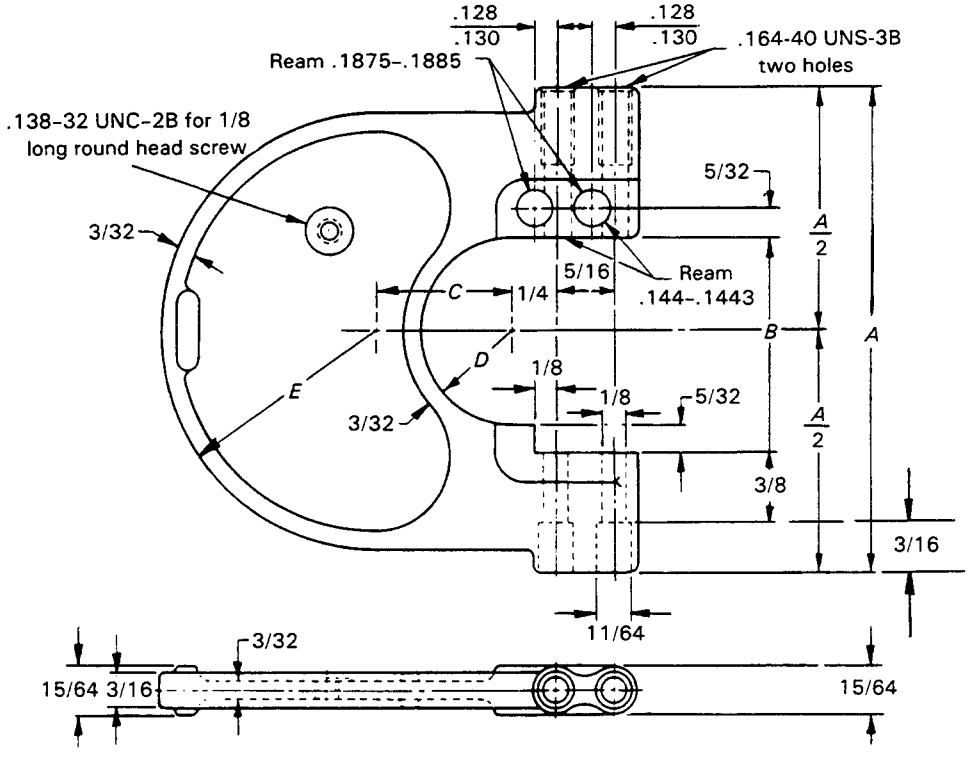


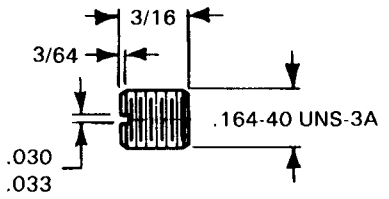
TABLE 62 PLAIN ADJUSTABLE SNAP GAGES, MODEL MC — DETAILS OF FRAME

Symbol	Range		Frame No.	*A*	*B*	*C*	*D*	*E*
	Above	To and Including						
MC-00	0.000	0.195	00	$2\frac{1}{4}$	$\frac{25}{32}$	$\frac{5}{8}$	$\frac{5}{16}$	1
MC-00X	.195	.385						
MC-0	.385	.570	0	$2\frac{5}{8}$	$1\frac{5}{32}$	$\frac{3}{4}$	$\frac{1}{2}$	$1\frac{3}{16}$
MC-0X	.570	.760						

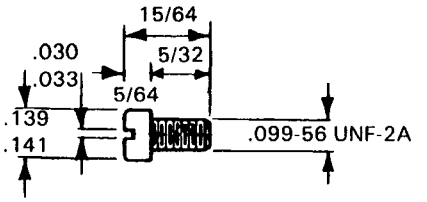
GENERAL NOTE: All dimensions are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

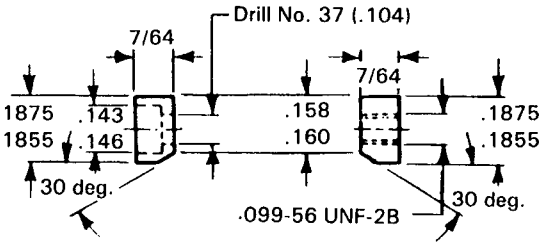
Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS



Adjusting Screw

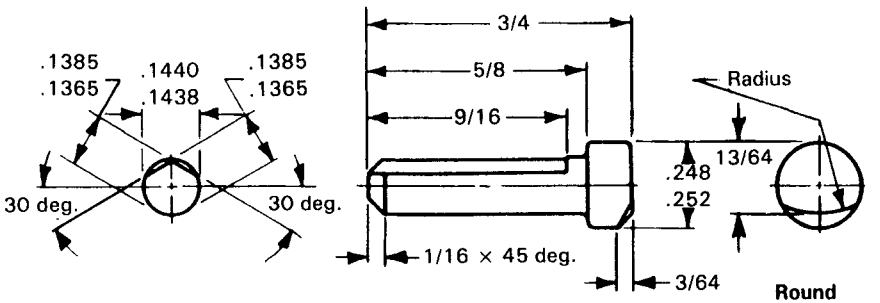


Locking Screw



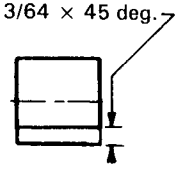
Locking Bushing

Locking Nut

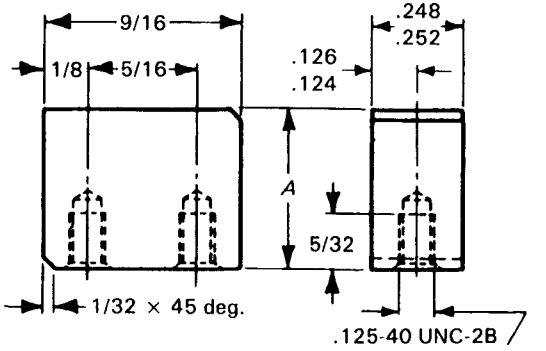


Button

Round Head

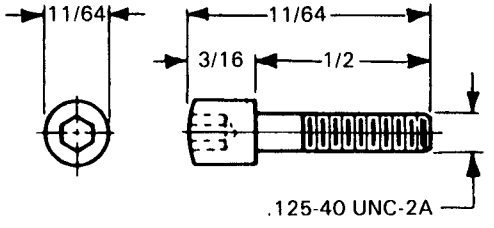


Square Head

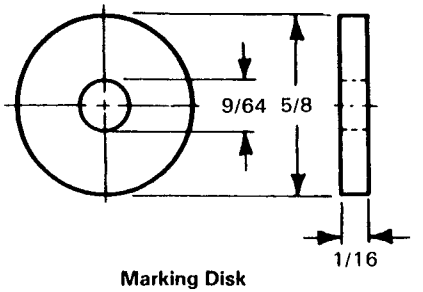


Two Corners

Two Holes



Anvil Screw



Marking Disk

Symbol	Frame No.	Range, in. Above	Range, in. Through	A, in. Max.	A, in. Min.
MC-OO	00	.000	.195	.440	.434
MC-OOX	00	.195	.385	.253	.247
MC-O	0	.385	.570	.440	.434
MC-OX	0	.570	.760	.253	.247

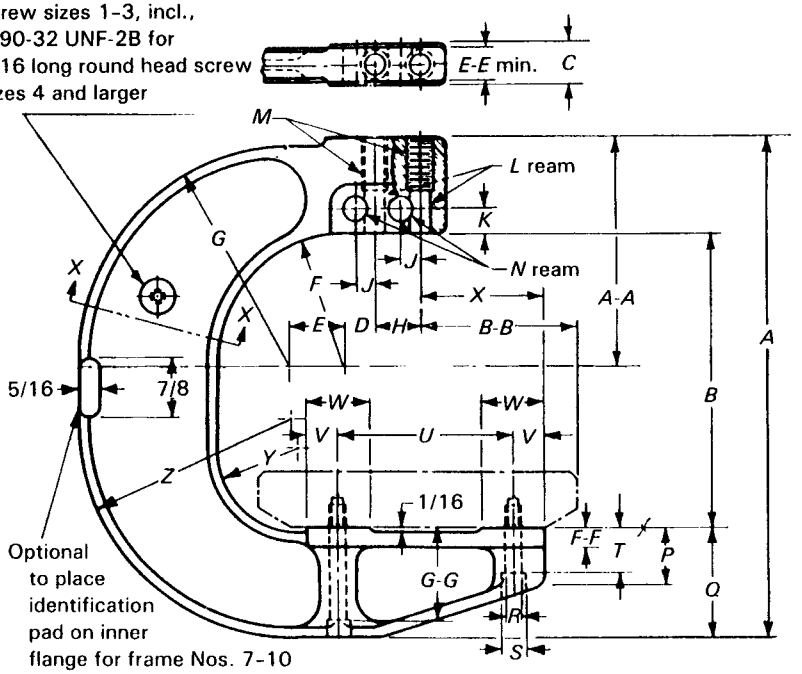
Anvil

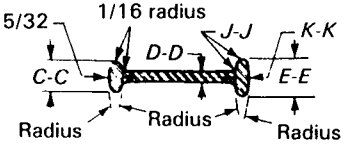
FIG. 12 MODEL MC SNAP GAGE DETAILS

Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

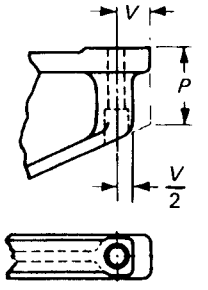
TABLE 63



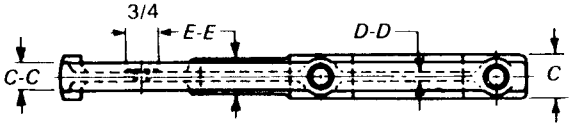


J-J = 1/16 radius
J-J = 5/64 radius
K-K = 5/32 radius (frame Nos. 1-6)
K-K = 3/16 radius (frame Nos. 7-10)

Section X-X



Optional for frame Nos. 7-10



T = 1/2 (frame Nos. 1-6)
T = 11/16 (frame Nos. 7-10)
F-F = 1/4 (frame Nos. 1 and 2)
F-F = 5/16 (frame Nos. 3-10)
G-G = 7/8 (frame Nos. 1-6)
G-G = 1-7/16 (frame Nos. 7-10)

Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

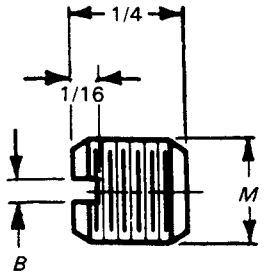
TABLE 63 ADJUSTABLE SNAP GAGES, EXTENDED ANVIL, MODEL E — DETAILS OF FRAME

Symbol and Range		Frame No.	Dimensions [Note (1)]													
			A	*P*	*Q*	*U*	*V*	*W*	*X*	*Y*	*Z*	*A–A*	*B–B*	*C–C*	*D–D*	*E–E*
E-1 — 0–1/4		1	3 3/8	9/16	1 1/8	1 1/4	5/16	5/8	7/8	1/4	1 3/16	1 1/2	1	11/32	7/64	7/16
E-2 — 1/4–1/2	E-2X — 1/2–3/4	2	3 15/16	5/8	1 3/16	1 1/4	5/16	5/8	7/8	1/2	1 3/8	1 3/4	1	11/32	7/64	7/16
E-3 — 3/4–1	E-3X — 1–1 1/4	3	4 1/2	5/8	1 1/4	1 1/2	3/8	3/4	1 1/8	5/8	1 5/8	2	1 1/4	3/8	1/8	7/16
E-4 — 1 1/4–1 1/2	E-4X — 1 1/2–1 3/4	4	5 1/16	11/16	1 5/16	1 3/4	3/8	3/4	1 1/4	3/4	1 13/16	2 1/4	1 1/2	3/8	1/8	7/16
E-5 — 1 3/4–2	E-5X — 2–2 1/4	5	5 11/16	3/4	1 7/16	2	3/8	3/4	1 3/8	13/16	2	2 1/2	1 3/4	3/8	1/8	7/16
E-6 — 2 1/4–2 1/2	E-6X — 2 1/2–2 3/4	6	6 5/16	13/16	1 9/16	2 1/4	3/8	13/16	1 9/16	1	2 1/4	2 3/4	2	3/8	1/8	7/16
E-7 — 2 3/4–3 1/16	E-7X — 3 1/16–3 7/16	7	7 9/16	7/8	1 11/16	2 3/4	1/2	1	1 15/16	1 1/4	2 13/16	3 7/16	2 7/16	7/16	9/64	9/16
E-8 — 3 7/16–3 13/16	E-8X — 3 13/16–4 3/16	8	8 7/16	15/16	1 13/16	3 3/16	9/16	1 1/8	2 1/4	1 3/8	3 3/16	3 13/16	2 13/16	7/16	9/64	9/16
E-9 — 4 3/16–4 9/16	E-9X — 4 9/16–4 15/16	9	9 5/16	1	1 15/16	3 9/16	5/8	1 1/4	2 1/2	1 1/2	3 1/2	4 3/16	3 3/16	7/16	5/32	9/16
E-10 — 4 15/16–5 5/16	E-10X — 5 5/16–5 11/16	10	10 3/16	1 1/16	2 1/16	4	11/16	1 3/8	2 13/16	1 5/8	3 3/4	4 9/16	3 9/16	7/16	5/32	9/16

GENERAL NOTE: All dimensions are in inches.

NOTE:
(1) Dimensions for *B, C, D, E, F, G, H, J, K, L, M, N, R,* and *S* are the same as for Model C (Table 61).

Not for Resale



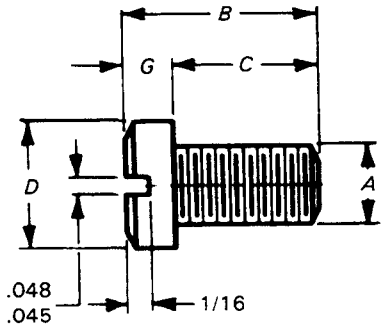


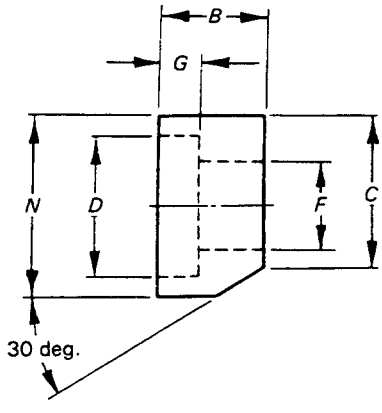
TABLE 64 MODELS A, B, C, AND E SNAP GAGE, AND MODELS K AND L ADJUSTABLE LENGTH GAGE ADJUSTING SCREWS

Snap Gage Frame Nos., Inclusive	*B*, in.		*M*
	Max.	Min.	
1-6	0.048	0.045	0.3325-40 UNS-3A
7-10	.048	.045	.3950-40 UNS-3A
11-16	.048	.045	.4575-40 UNS-3A

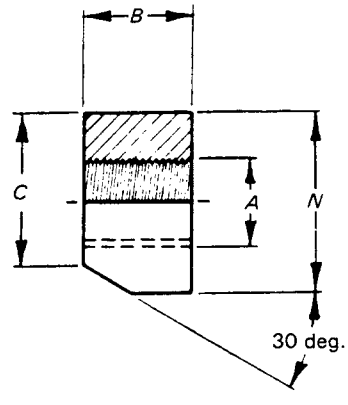
TABLE 65 MODELS A, B, C, AND E SNAP GAGE, AND MODELS K AND L ADJUSTABLE LENGTH GAGE LOCKING SCREWS

Snap Gage Frame Nos., Inclusive	*A*	*B*	*C*	*D*		*G*
				Max.	Min.	
1-6	.164-36 UNF-2A	7/16	11/32	0.252	0.248	3/32
7-10	.190-32 UNF-2A	17/32	27/64	.315	.310	7/64
11-16	.216-28 UNF-2A	21/32	17/32	.346	.341	1/8

GENERAL NOTE: All dimensions except *A* are in inches.



Locking Bushing



Locking Nut

TABLE 66 MODELS A, B, C, AND E SNAP GAGE, AND MODELS K AND L ADJUSTABLE LENGTH GAGE LOCKING BUSHINGS AND NUTS

Snap Gage Frame Nos., Inclusive	*A*	*B*	*C*		*D*		*F*	*G*	*N*	
			Max.	Min.	Max.	Min.			Max.	Min.
1-6	.164-36 UNF-2B	11/64	0.276	0.271	0.260	0.255	11/64	3/32	0.3125	0.3105
7-10	.190-32 UNF-2B	15/64	.333	.328	.323	.318	13/64	7/64	.3750	.3730
11-16	.216-28 UNF-2B	19/64	.385	.380	.355	.350	15/64	1/8	.4375	.4355

GENERAL NOTE: All dimensions except *A* are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

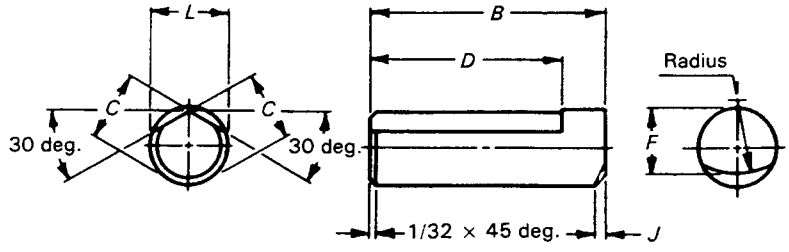


TABLE 67 MODEL A SNAP GAGE GAGING PINS

Snap Gage Frame Nos., Inclusive	B	C		D	F	J	L	
		Max.	Min.				Max.	Min.
1-6	15/16	0.300	0.298	13/16	17/64	3/64	0.3125	0.3123
7-10	1 7/32	.358	.356	1 1/32	21/64	3/64	.375	.3748
11-16	1 1/2	.417	.415	1 1/4	3/8	1/16	.4375	.4373

GENERAL NOTE: All dimensions are in inches.

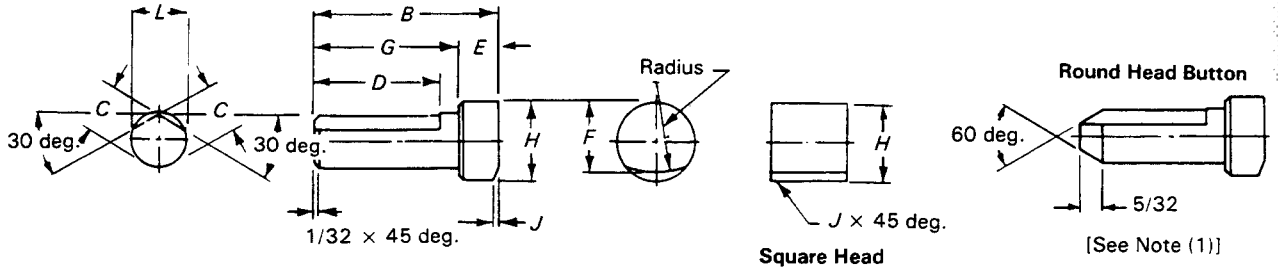


TABLE 68 MODELS B, C, AND E SNAP GAGE, AND MODELS K AND L ADJUSTABLE LENGTH GAGE GAGING BUTTONS

Snap Gage Frame Nos., Inclusive	B	C		D	E	F	G	H		J	L	
		Max.	Min.					Max.	Min.		Max.	Min.
1-6 (2)	1 3/16	0.300	0.298	13/16	1/4	7/16	15/16	0.505	0.500	3/64	0.3125	0.3123
7-10	1 17/32	.358	.356	1 1/32	5/16	9/16	1 7/32	.630	.625	3/64	.3750	.3748
11-16	1 7/8	.417	.415	1 1/4	3/8	5/8	1 1/2	.755	.750	1/16	.4375	.4373

GENERAL NOTE: All dimensions are in inches.

NOTES:
(1) Square head gaging buttons are optional.
(2) Modification of gaging button to permit assembly in Model C, Frame No. 1, range 0 in. to 1/4 in.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

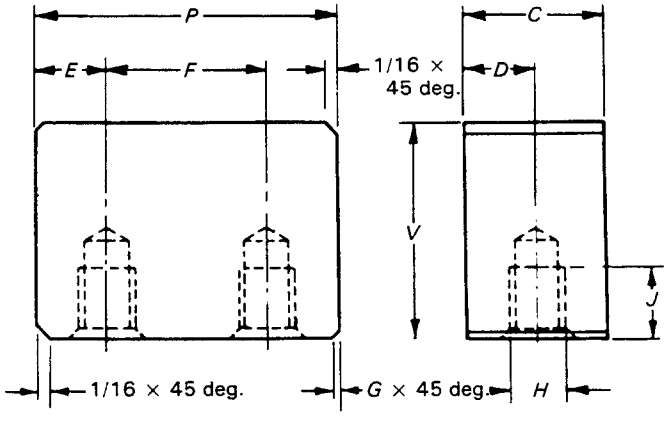


TABLE 69 MODEL C SNAP GAGE AND MODEL L ADJUSTABLE LENGTH GAGE ANVILS

Snap Gage Symbol	Snap Gage Frame Nos., Inclusive	C		D		E	F	G	H	J	P	V
		Max.	Min.	Max.	Min.							
C1 and C-2X-C-6X	1- 6	0.505	0.500	0.2525	0.2500	1/4	19/32	1/64	.190-32 UNF-2B	5/16	1 3/32	1/2
C-2-C-6	2- 6	.505	.500	.2525	.2500	1/4	19/32	1/64	.190-32 UNF-2B	5/16	1 3/32	3/4
C-7X-C-10X	7-10	.630	.625	.3150	.3125	5/16	23/32	1/32	.250-28 UNF-2B	11/32	1 11/32	9/16
C-7-C-10	7-10	.630	.625	.3150	.3125	5/16	23/32	1/32	.250-28 UNF-2B	11/32	1 11/32	15/16
C-11X-C-16X	11-16	.755	.750	.3775	.3750	3/8	27/32	1/32	.3125-24 UNF-2B	3/8	1 19/32	5/8
C-11-C-16	11-16	.755	.750	.3775	.3750	3/8	27/32	1/32	.3125-24 UNF-2B	3/8	1 19/32	1 1/8

GENERAL NOTE: All dimensions except *H* are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

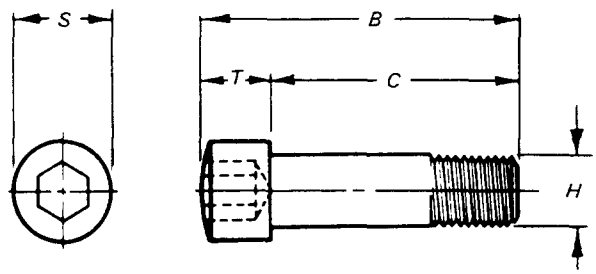


TABLE 70 MODEL C SNAP GAGE AND MODEL L ADJUSTABLE LENGTH GAGE ANVIL SCREWS

Snap Gage Frame Nos., Inclusive	*B*	*C*	*H*	*S*	*T*
1- 6	15/16	3/4	.190-32 UNF-2A	5/16	3/16
7-10	1 3/16	5/8	.250-28 UNF-2A	3/8	1/4
11-16	1 7/16	3/4	.3125-24 UNF-2A	13/32	5/16

GENERAL NOTE: All dimensions except *H* are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

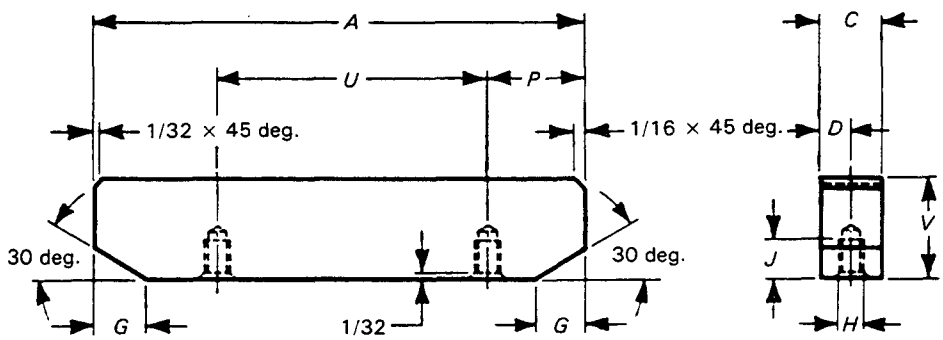


TABLE 71 MODEL E SNAP GAGE ANVIL AND ANVIL SCREWS

Gage No.	Frame No.	A	C Max.	C Min.	D Max.	D Min.	G	H	J	P	U	V
E-1	1	2 1/8	0.505	0.500	0.2525	0.250	1/8	.190-32 UNF-2B	5/16	7/16	1 1/4	1/2
E-2	2	2 1/8	.505	.500	.2525	.250	1/8	.190-32 UNF-2B	5/16	7/16	1 1/4	3/4
E-2X	2	2 1/8	.505	.500	.2525	.250	1/8	.190-32 UNF-2B	5/16	7/16	1 1/4	1/2
E-3	3	2 5/8	.505	.500	.2525	.250	1/8	.190-32 UNF-2B	5/16	1/2	1 1/2	3/4
E-3X	3	2 5/8	.505	.500	.2525	.250	1/8	.190-32 UNF-2B	5/16	1/2	1 1/2	1/2
E-4	4	3 1/8	.505	.500	.2525	.250	1/4	.190-32 UNF-2B	5/16	5/8	1 3/4	3/4
E-4X	4	3 1/8	.505	.500	.2525	.250	1/4	.190-32 UNF-2B	5/16	5/8	1 3/4	1/2
E-5	5	3 5/8	.505	.500	.2525	.250	3/8	.190-32 UNF-2B	5/16	3/4	2	3/4
E-5X	5	3 5/8	.505	.500	.2525	.250	3/8	.190-32 UNF-2B	5/16	3/4	2	1/2
E-6	6	4 1/8	.505	.500	.2525	.250	7/16	.190-32 UNF-2B	5/16	13/16	2 1/4	3/4
E-6X	6	4 1/8	.505	.500	.2525	.250	7/16	.190-32 UNF-2B	5/16	13/16	2 1/4	1/2
E-7	7	5	.630	.625	.3150	.3125	1/2	.250-28 UNF-2B	11/32	1	2 3/4	15/16
E-7X	7	5	.630	.625	.3150	.3125	1/2	.250-28 UNF-2B	11/32	1	2 3/4	9/16
E-8	8	5 3/4	.630	.625	.3150	.3125	9/16	.250-28 UNF-2B	11/32	1 1/8	3 3/16	15/16
E-8X	8	5 3/4	.630	.625	.3150	.3125	1/2	.250-28 UNF-2B	11/32	1 1/8	3 3/16	9/16
E-9	9	6 1/2	.630	.625	.3150	.3125	11/16	.250-28 UNF-2B	11/32	1 5/16	3 9/16	15/16
E-9X	9	6 1/2	.630	.625	.3150	.3125	1/2	.250-28 UNF-2B	11/32	1 5/16	3 9/16	9/16
E-10	10	7 1/4	.630	.625	.3150	.3125	3/4	.250-28 UNF-2B	11/32	1 7/16	4	15/16
E-10X	10	7 1/4	.630	.625	.3150	.3125	1/2	.250-28 UNF-2B	11/32	1 7/16	4	9/16

Anvil Screws (Hexagon-Socket-Head Cap Screws)

Frame Nos., Inclusive	Size	Length: Front Screw	Length: Rear Screw
1-6	.190-32 UNF-2A	3/4	1 1/8
7-10	.250-28 UNF-2A	1	1 3/4

GENERAL NOTE: All dimensions except *H* are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

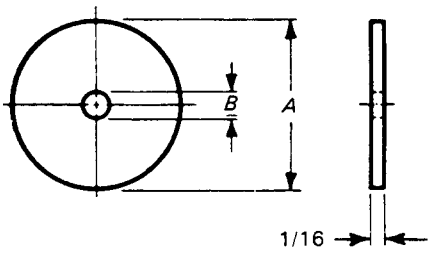


TABLE 72 MODELS A, B, C, E, AND MC SNAP GAGE, AND MODELS KA, KB, LA, AND LB ADJUSTABLE LENGTH GAGE MARKING DISKS

Snap Gage Frame Nos., Inclusive	*A*	*B*
00, 0, and 1	5/8	9/64
2 and 3	7/8	9/64
4–16	1	13/64

GENERAL NOTE: All dimensions are in inches.

3.10 Adjustable Length Gages

(*a*) The American Gage Design Standard adjustable length gage employs, for gaging members and adjusting and locking means, the same fittings that are utilized in adjustable snap gages, as detailed in Table 74 (p. 111).

(*b*) The gage heads are designed in two models, as follows:

(*1*) the double-sided model with GO and NOT GO gaging members on opposite sides of the spacing tubes;

(*2*) the progressive model with two pairs of gaging members on the same side of the spacing tubes.

All models may be used to cover a very wide range, as the spacing tubes may be constructed in any length desired. See Table 73 above.

(*c*) General details of construction and dimensions are shown in Figs. 13 through 19 (pp. 104–110).

TABLE 73 RECOMMENDED APPLICABILITY OF ADJUSTABLE LENGTH GAGE AS RELATED TO PRODUCT TOLERANCE

Range		
Above	To and Including	Product Tolerance, Not Less Than
0	12	0.005
12	30	.010
30	. . .	.020

GENERAL NOTE: All dimensions are in inches.

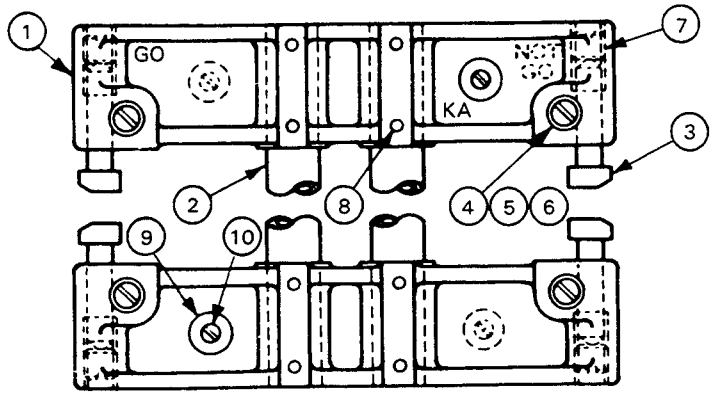
3.11 Thread Snap and Indicating Thread Gages

(*a*) *Thread Snap Gages.* Thread snap gages are usually adjustable and are comprised of a U-shaped frame on which are mounted one or two pair of gaging elements — one pair for checking GO (maximum-material limit), the second pair for checking NOT GO (minimum-material limit). These gages most commonly are made to check external product threads and, as such, are usually set to conventional thread setting plug gages.

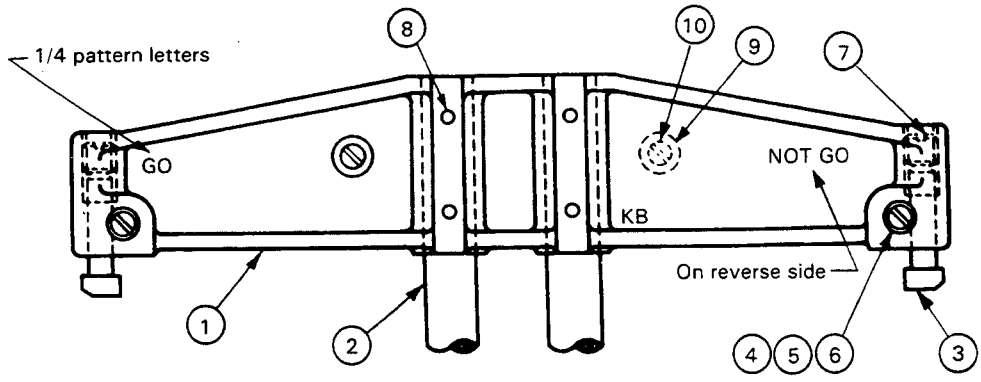
(*b*) *Indicating Thread Gages.* Indicating thread gages usually comprise a frame with an arm on which are mounted one or more pairs of gaging elements and means for registering the variation of movement on a dial indicator or other means. These gages are usually set to conventional thread setting gages.

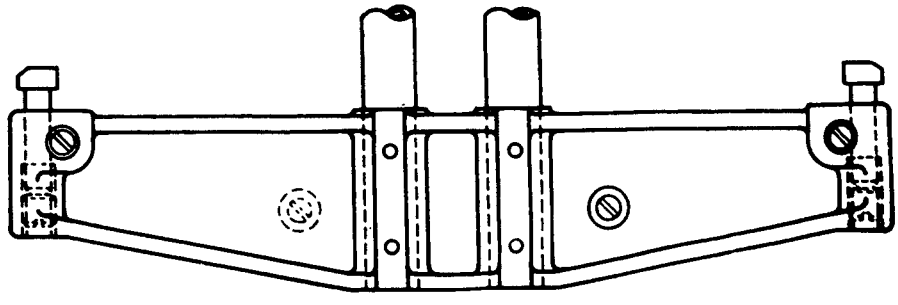
(*c*) There are no American Gage Design standards at present for thread snap or indicating thread gages. Various types are in general usage and no attempt is made to pass judgment on or standardize any particular designs. This paragraph is inserted in this document to establish recognition of these gages and their relationship to other types of gages. Possibly some details of the designs can be standardized in future revisions of this Standard.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale



Model KA



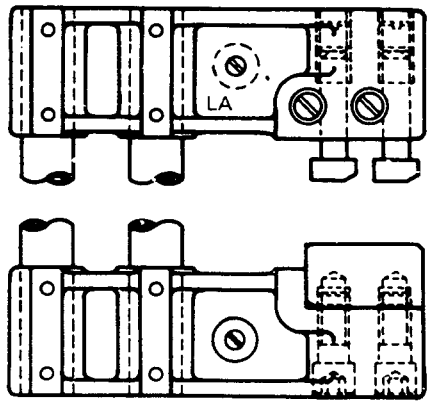


Model KB

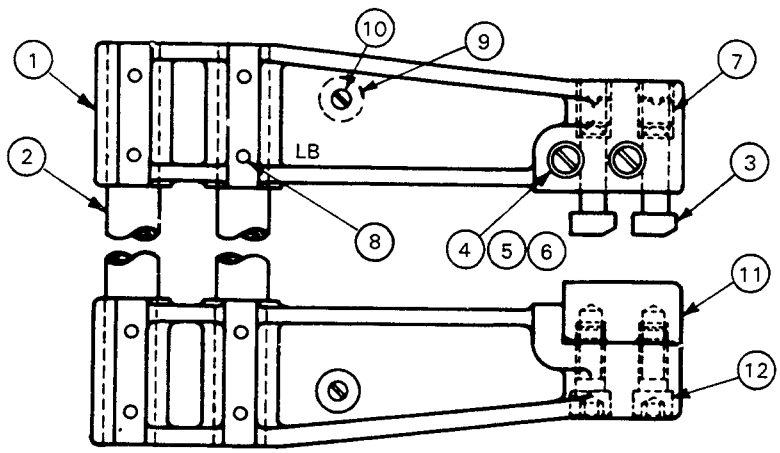
(1)	Gage head	(6)	Locking bushing
(2)	Spacing tube	(7)	Adjusting screw
(3)	Gaging button	(8)	Dowel pin
(4)	Locking screw	(9)	Marking disk
(5)	Locking nut	(10)	Marking disk screw

FIG. 13 ADJUSTABLE LENGTH GAGE, DOUBLE SIDED, MODELS KA AND KB, DETAILS OF CONSTRUCTION

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale



Model LA



Model LB

1	Gage head	7	Adjusting screw
2	Spacing tube	8	Dowel pin
3	Gaging button	9	Marking disk
4	Locking screw	10	Marking disk screw
5	Locking nut	11	Anvil
6	Locking bushing	12	Anvil screw

FIG. 14 ADJUSTABLE LENGTH GAGE, PROGRESSIVE, MODELS LA AND LB, DETAILS OF CONSTRUCTION

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

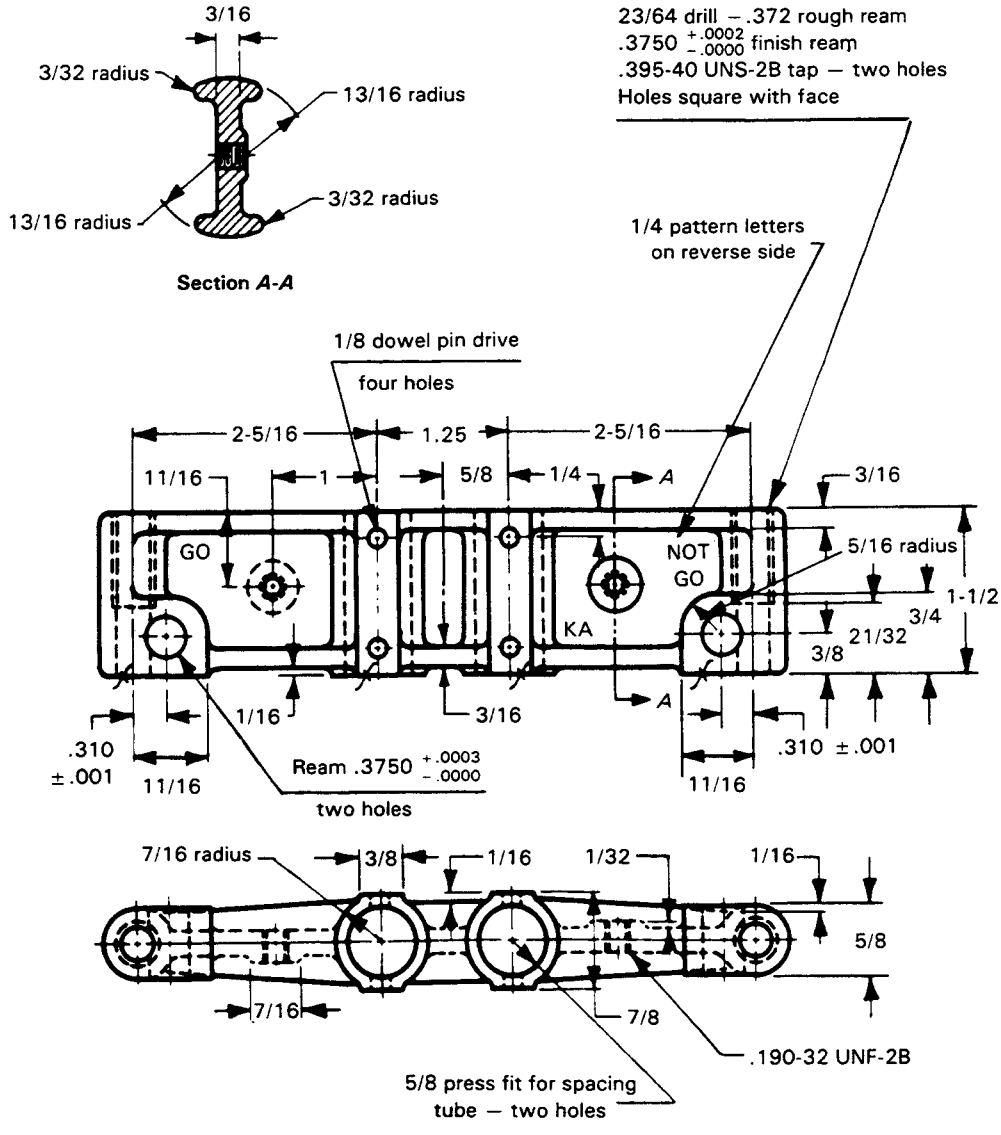


FIG. 15 ADJUSTABLE LENGTH GAGE, DOUBLE SIDED, MODEL KA, DETAILS OF GAGE HEADS

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

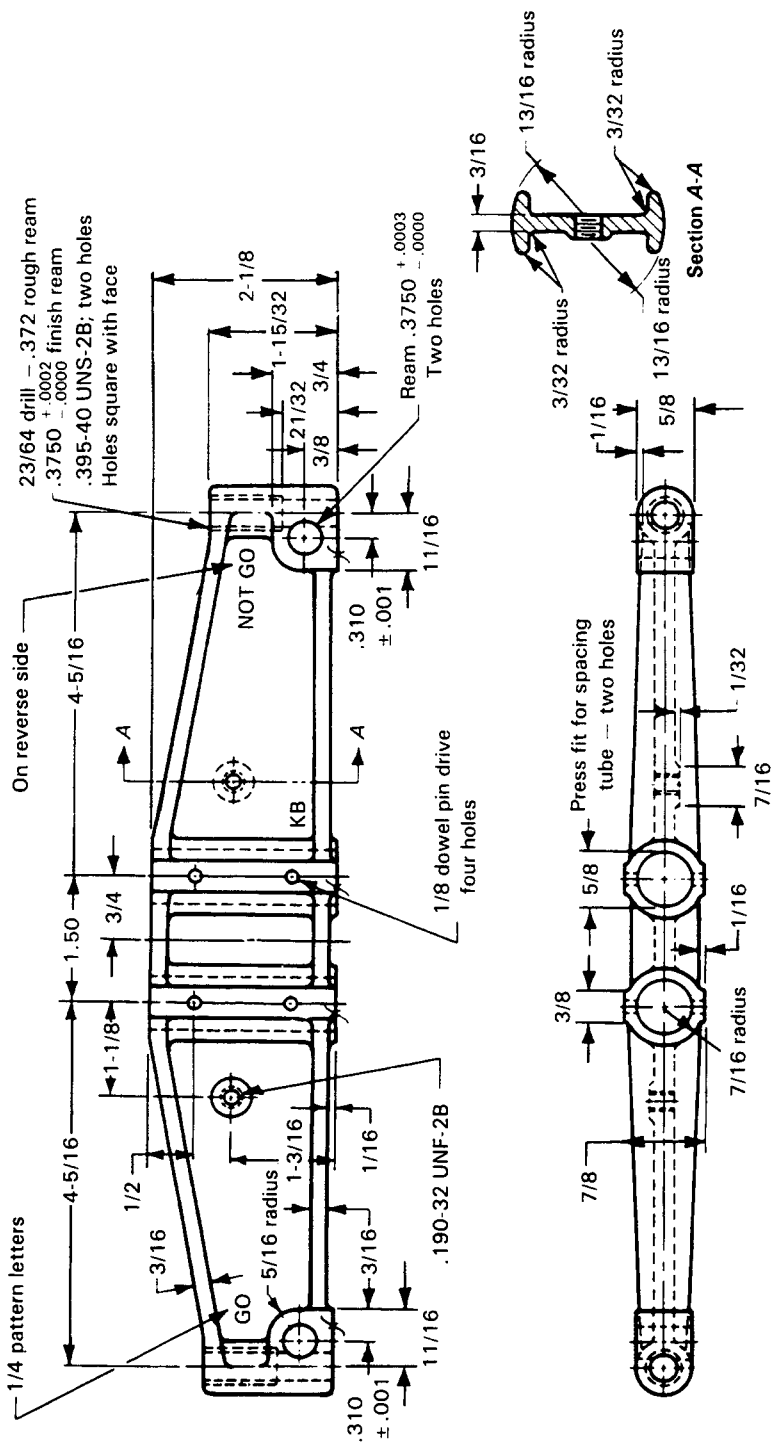


FIG. 16 ADJUSTABLE LENGTH GAGE, DOUBLE SIDED, MODEL KB, DETAILS OF GAGE HEADS

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

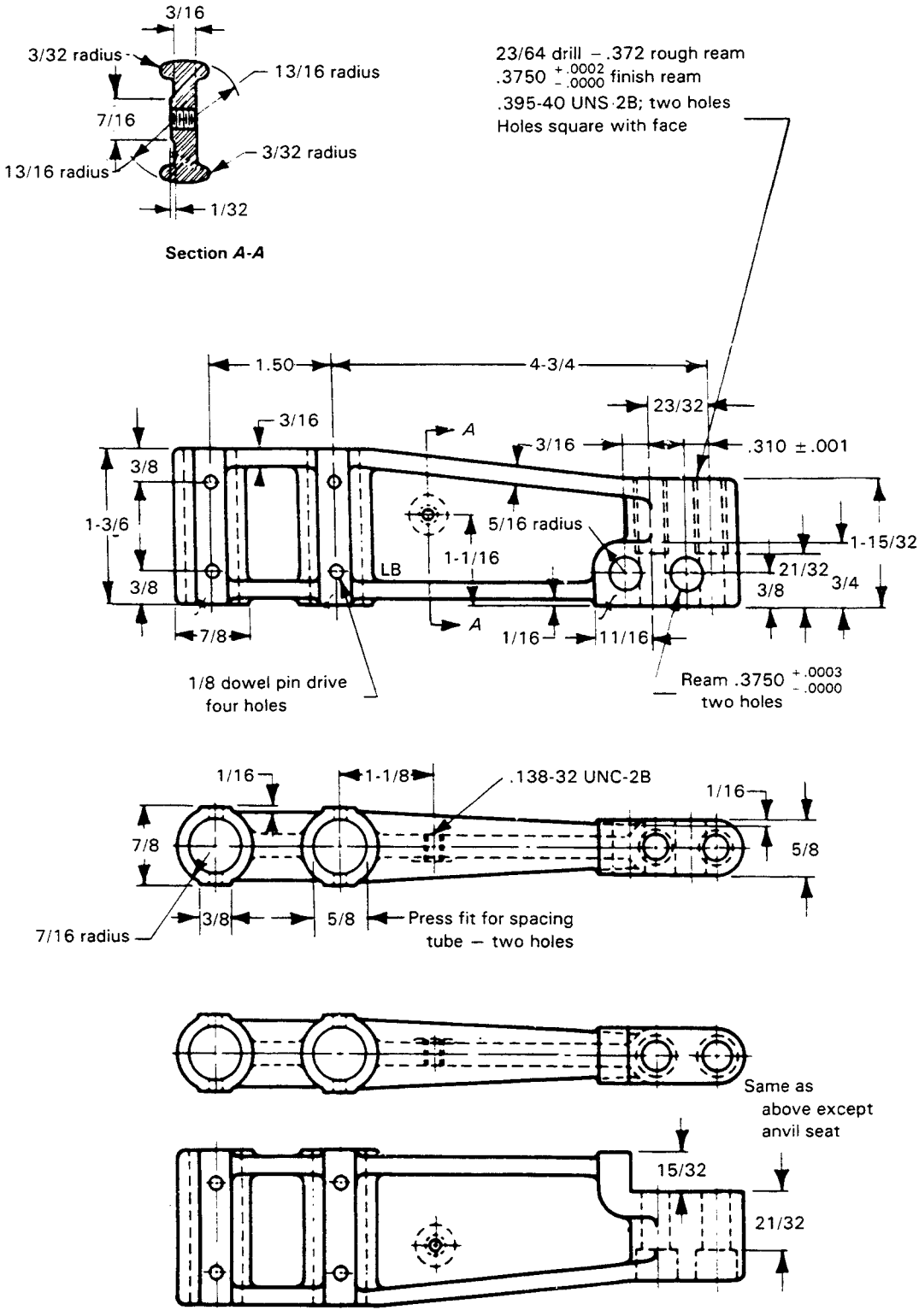


FIG. 17 ADJUSTABLE LENGTH GAGE, PROGRESSIVE, MODEL LA, DETAILS OF GAGE HEADS

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS Not for Resale

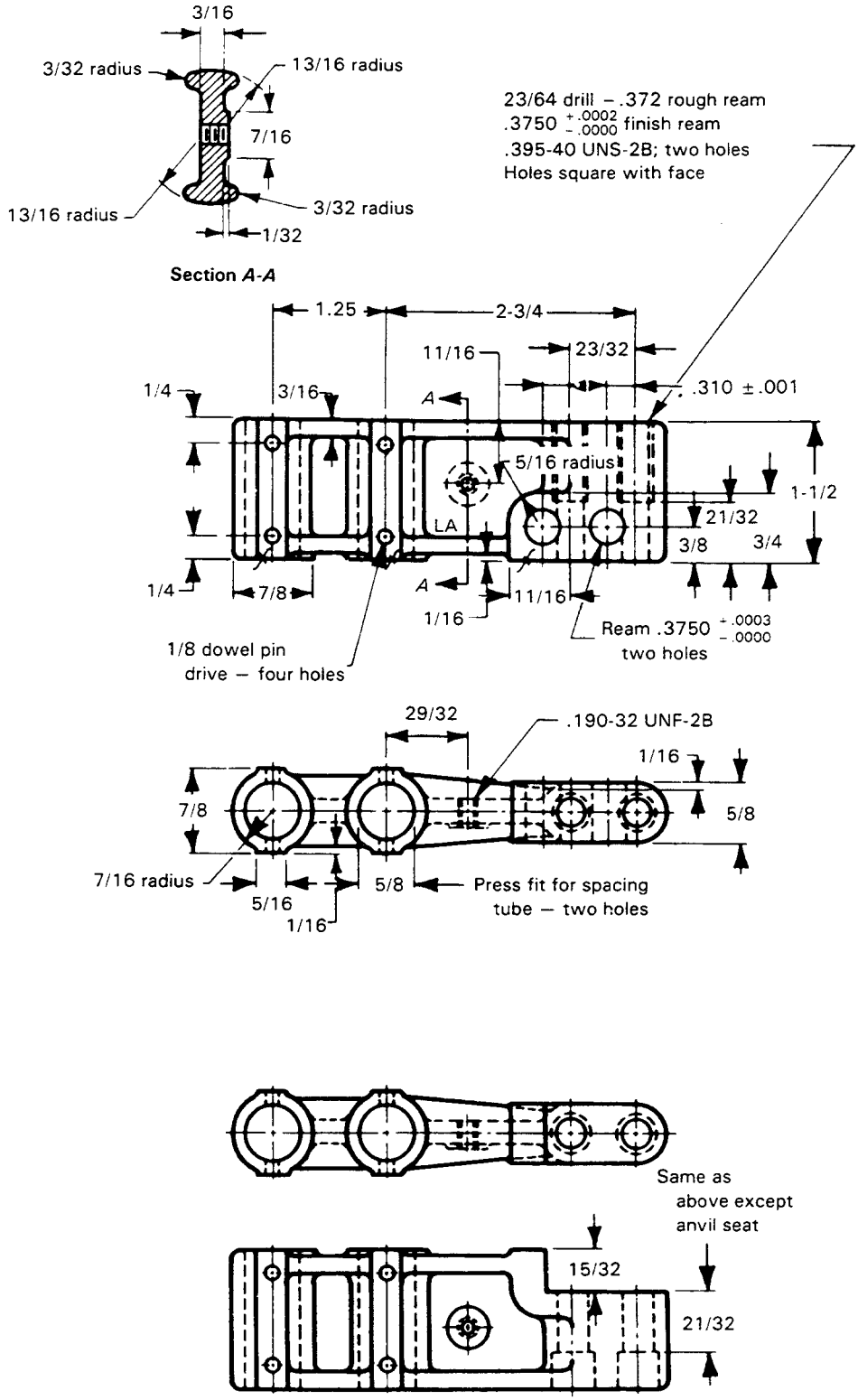


FIG. 18 ADJUSTABLE LENGTH GAGE, PROGRESSIVE, MODEL LB, DETAILS OF GAGE HEADS

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

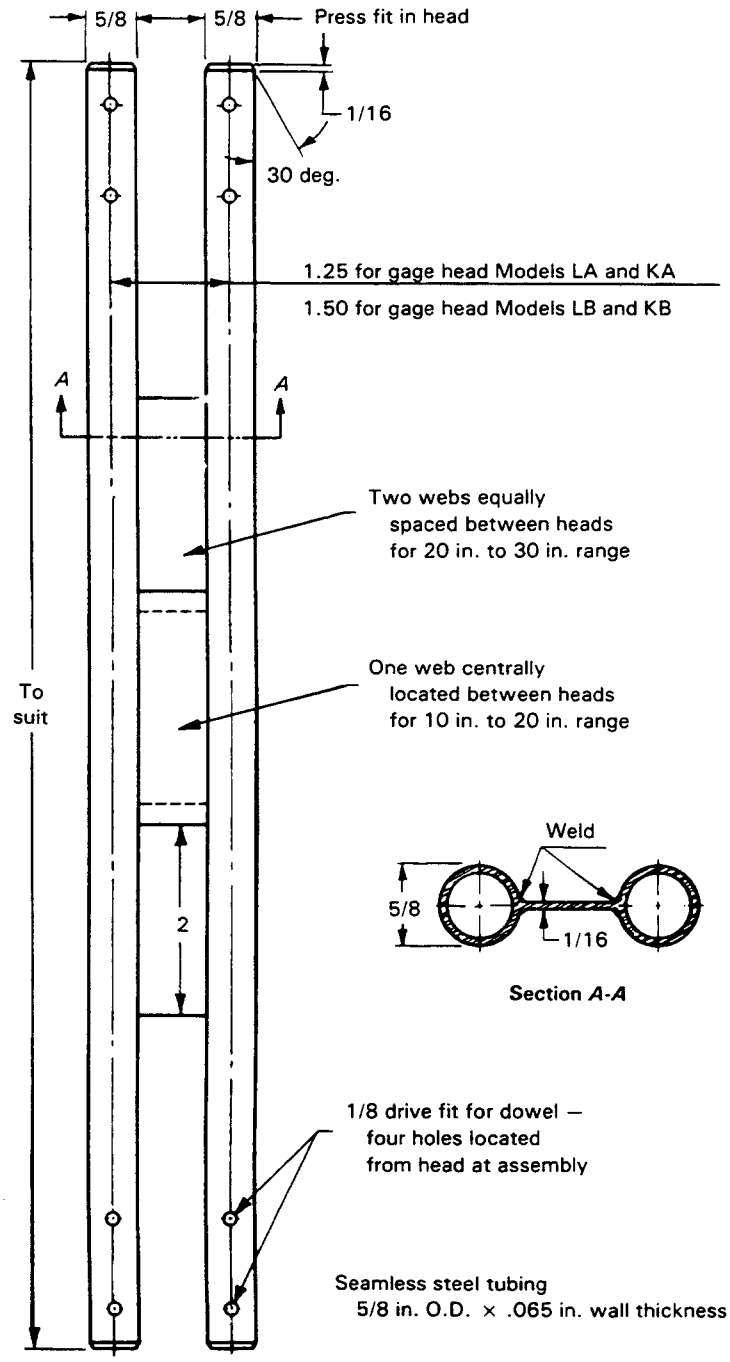


FIG. 19 ADJUSTABLE LENGTH GAGES — DETAILS OF SPACING TUBES

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

TABLE 74 ADJUSTABLE LENGTH GAGES, PARTS LIST

Part	Double Sided (Specification or Reference)		Progressive (Specification or Reference)	
	Model KA	Model KB	Model LA	Model LB
Gage head	Fig. 15	Fig. 16	Fig. 17	Fig. 18
Spacing tube	Fig. 19	Fig. 19	Fig. 19	Fig. 19
Gaging button	Table 68, Frame Nos. 7-10	Table 68, Frame Nos. 7-10	Table 68, Frame Nos. 7-10	Table 68, Frame Nos. 7-10
Locking screw	Table 65, Frame Nos. 7-10	Table 65, Frame Nos. 7-10	Table 65, Frame Nos. 7-10	Table 65, Frame Nos. 7-10
Locking nut	Table 66, Frame Nos. 7-10	Table 66, Frame Nos. 7-10	Table 66, Frame Nos. 7-10	Table 66, Frame Nos. 7-10
Locking bushing	Table 66, Frame Nos. 7-10	Table 66, Frame Nos. 7-10	Table 66, Frame Nos. 7-10	Table 66, Frame Nos. 7-10
Adjusting screw	Table 64, Frame Nos. 7-10	Table 64, Frame Nos. 7-10	Table 64, Frame Nos. 7-10	Table 64, Frame Nos. 7-10
Dowel pins	1/8 in. dia. × 7/8 in.	1/8 in. dia. × 7/8 in.	1/8 in. dia. × 7/8 in.	1/8 in. dia. × 7/8 in.
Marking disk	Table 72, Frame Nos. 2 and 3	Table 72, Frame Nos. 4-16	Table 72, Frame Nos. 2 and 3	Table 72, Frame Nos. 4-16
Marking disk screw	.190-32 UNF-2A × 1/4 in.	.190-32 UNF-2A × 1/4 in.	.138-32 UNC-2A × 1/4 in.	.190-32 UNF-2A × 1/4 in.
Anvil	. . .	. . .	Table 69, Frame Nos. 7-10	Table 69, Frame Nos. 7-10
Anvil screw	. . .	. . .	Table 70, Frame Nos. 7-10	Table 70, Frame Nos. 7-10

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

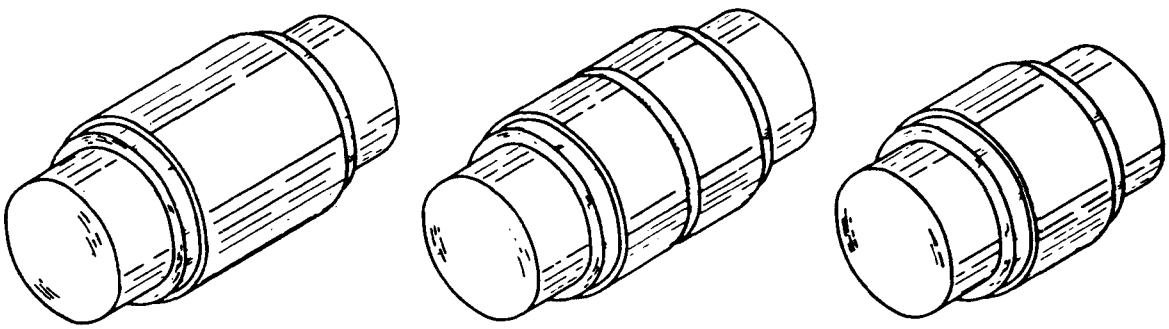


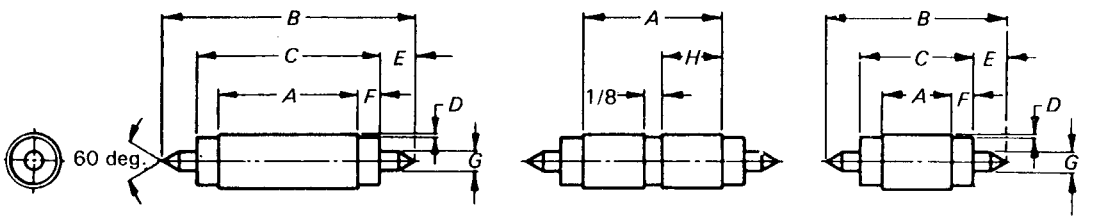
FIG. 20 MASTER DISKS — STYLES 1, 2, AND 3

3.12 Master Disks

Master disks have been manufactured by various firms and have been widely used for the setting and checking of comparators and adjustable snap gages and for other applications where precision gage blocks might be used, but where gages of cylindrical form would be preferred. The designs shown in Tables 75 through 81 (pp. 113-119), and in Fig. 20 above and Fig. 21 (p. 118) were adopted as standard by the Committee in 1938. These cover the range of sizes from above 0.105 in. to and including 8.010 in.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS



Style 1 Style 2 Style 3

TABLE 75 MASTER DISKS — RANGE ABOVE 0.105 IN. TO AND INCLUDING 0.365 IN.

Grip Size No.	Range in Diameters		Styles 1 and 2								Style 3						
	Above	To and Including	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*A*	*B*	*C*	*D*	*E*	*F*	*G*
00	0.105	0.150	3/4	1 9/16	1 1/16	0.005	1/4	5/32	0.050	5/16	3/8	1 3/16	1 1/16	0.005	1/4	5/32	0.050
0	.150	.230	7/8	1 11/16	1 3/16	.005	1/4	5/32	.080	3/8	7/16	1 1/4	3/4	.005	1/4	5/32	.080
1	.230	.365	1	1 13/16	1 5/16	.010	1/4	5/32	.128	7/16	1/2	1 5/16	1 3/16	.010	1/4	5/32	.128

GENERAL NOTE: All dimensions are in inches.

Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

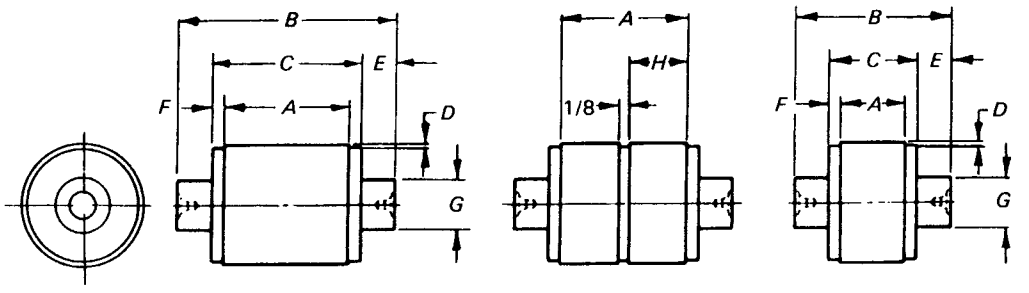
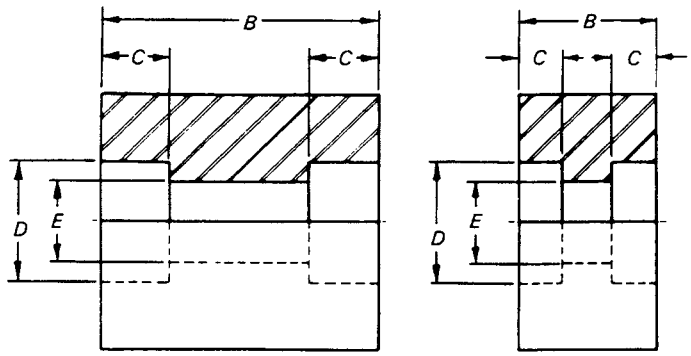


TABLE 76 MASTER DISKS — RANGE ABOVE 0.365 IN. TO AND INCLUDING 1.510 IN.

Grip Size No.	Range in Diameters		Styles 1 and 2								Style 3						
	Above	To and Including	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*A*	*B*	*C*	*D*	*E*	*F*	*G*
2	0.365	0.510	1 1/8	2 1/16	1 7/16	0.010	5/16	5/32	0.188	1/2	9/16	1 1/2	7/8	0.010	5/16	5/32	0.188
3	.510	.825	1 1/4	2 3/16	1 9/16	.010	5/16	5/32	.250	9/16	5/8	1 9/16	15/16	.010	5/16	5/32	.250
4	.825	1.135	1 3/8	2 9/16	1 11/16	.010	7/16	5/32	.500	5/8	11/16	1 7/8	1	.010	7/16	5/32	.500
5	1.135	1.510	1 5/8	2 13/16	1 15/16	.010	7/16	5/32	.625	3/4	13/16	2	1 1/8	.010	7/16	5/32	.625

GENERAL NOTE: All dimensions are in inches.

Not for Resale



Style 1 Styles 2 and 3

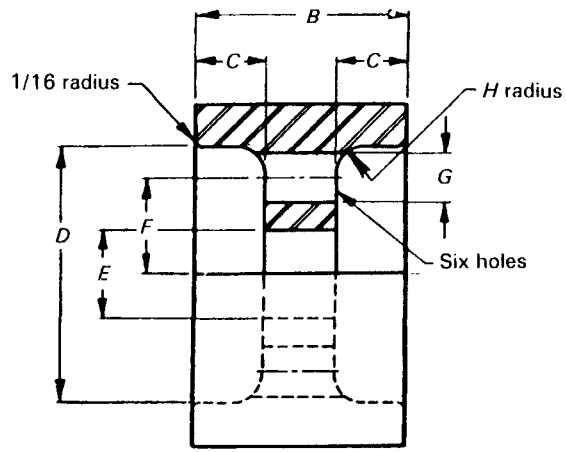
TABLE 77 MASTER DISKS — RANGE ABOVE 1.510 IN. TO AND INCLUDING 2.510 IN.

Grip Size No.	Range in Diameters		Style 1				Styles 2 and 3			
	Above	To and Including	*B*	*C*	*D*	*E*	*B*	*C*	*D*	*E*
6	1.510	2.010	1 7/8	1/2	25/32	17/32	7/8	5/16	25/32	17/32
6	2.010	2.510	2	1/2	25/32	17/32	7/8	5/16	25/32	17/32

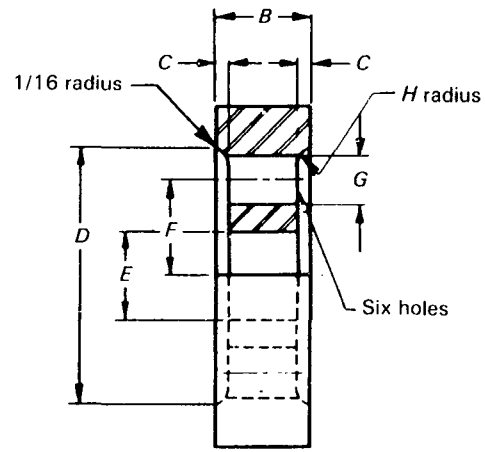
GENERAL NOTE: All dimensions are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS



Style 1



Styles 2 and 3

TABLE 78 MASTER DISKS — RANGE ABOVE 2.510 IN. TO AND INCLUDING 8.010 IN.

Grip Size No.	Range in Diameters		Style 1							Styles 2 and 3						
	Above	To and Including	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*B*	*C*	*D*	*E*	*F*	*G*	*H*
7	2.510	3.010	2	5/8	1 7/8	29/32	. . .	. . .	3/16	1	1/8	1 7/8	29/32	. . .	. . .	3/16
7	3.010	3.510	2	5/8	2 1/4	29/32	. . .	. . .	5/16	1	1/8	2 1/4	29/32	. . .	. . .	3/16
7	3.510	4.010	2 1/8	11/16	2 5/8	29/32	. . .	. . .	5/16	1	1/8	2 5/8	29/32	. . .	. . .	3/16
7	4.010	4.510	2 1/8	11/16	3	29/32	. . .	. . .	5/16	1	1/8	3	29/32	. . .	. . .	3/16
7	4.510	5.010	2 1/8	11/16	3 7/16	29/32	. . .	. . .	5/16	1	1/8	3 7/16	29/32	. . .	. . .	3/16
7	5.010	5.510	2 1/8	11/16	3 7/8	29/32	. . .	. . .	5/16	1	1/8	3 7/8	29/32	. . .	. . .	3/16
7	5.510	6.010	2 1/8	11/16	4 5/16	29/32	1 3/8	1	5/16	1	1/8	4 5/16	29/32	1 3/8	1	3/16
7	6.010	6.510	2 1/8	11/16	4 3/4	29/32	1 1/2	1 1/8	5/16	1	1/8	4 3/4	29/32	1 1/2	1 1/8	3/16
7	6.510	7.010	2 1/8	11/16	5 1/4	29/32	1 5/8	1 1/4	5/16	1	1/8	5 1/4	29/32	1 5/8	1 1/4	3/16
7	7.010	7.510	2 1/8	11/16	5 3/4	29/32	1 3/4	1 3/8	5/16	1	1/8	5 3/4	29/32	1 3/4	1 3/8	3/16
7	7.510	8.010	2 1/8	11/16	6 1/4	29/32	1 7/8	1 1/2	5/16	1	1/8	6 1/4	29/32	1 7/8	1 1/2	3/16

GENERAL NOTE: All dimensions are in inches.

Not for Resale

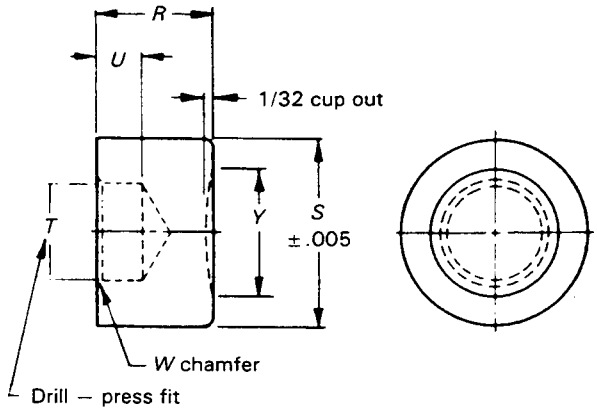


TABLE 79 INSULATING GRIPS FOR MASTER DISKS — RANGE ABOVE 0.105 IN. TO AND INCLUDING 1.510 IN.

Grip Size No.	Range in Diameters		R	S	Drill Size T	U	W	Y
	Above	To and Including						
00	0.105	0.150	7/16	3/32	No. 55 (0.052)	9/32	. . .	. . .
0	.150	.230	7/16	1/8	No. 46 (0.081)	9/32	. . .	. . .
1	.230	.365	7/16	7/32	No. 30 (0.128)	9/32	1/64 × 45 deg.	0.142
2	.365	.510	1/2	11/32	No. 12 (0.189)	11/32	1/32 × 45 deg.	.223
3	.510	.825	1/2	1/2	1/4 (0.250)	11/32	1/32 × 45 deg.	.325
4	.825	1.135	5/8	3/4	1/2 (0.500)	15/32	1/32 × 45 deg.	.529
5	1.135	1.510	5/8	1	5/8 (0.625)	15/32	1/32 × 45 deg.	.649

GENERAL NOTE: All dimensions except *T* are in inches.

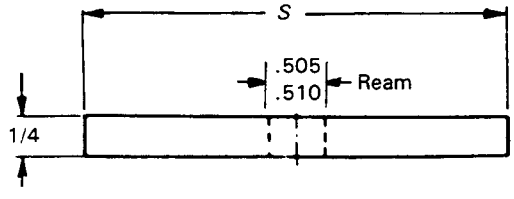
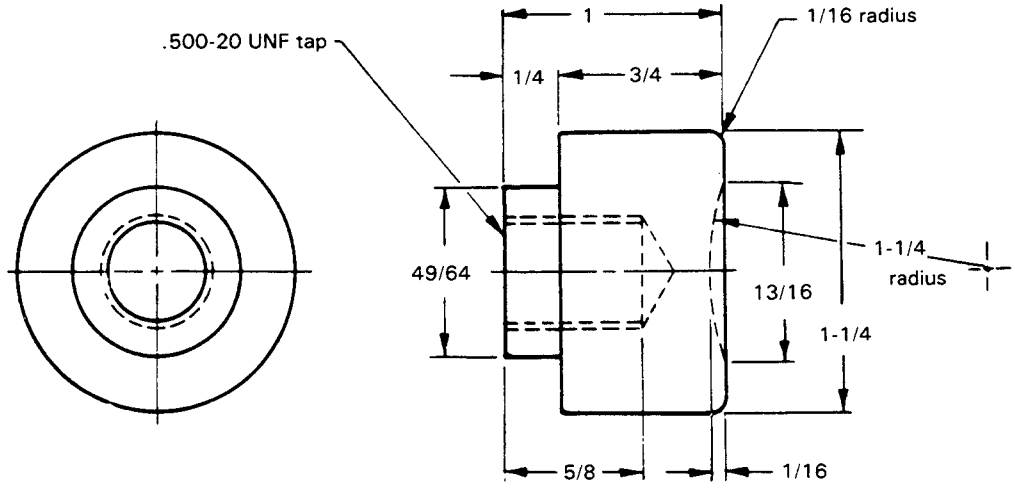


TABLE 80 SEPARATOR PLATES FOR MASTER DISKS — RANGE ABOVE 1.510 IN. TO AND INCLUDING 8.010 IN.

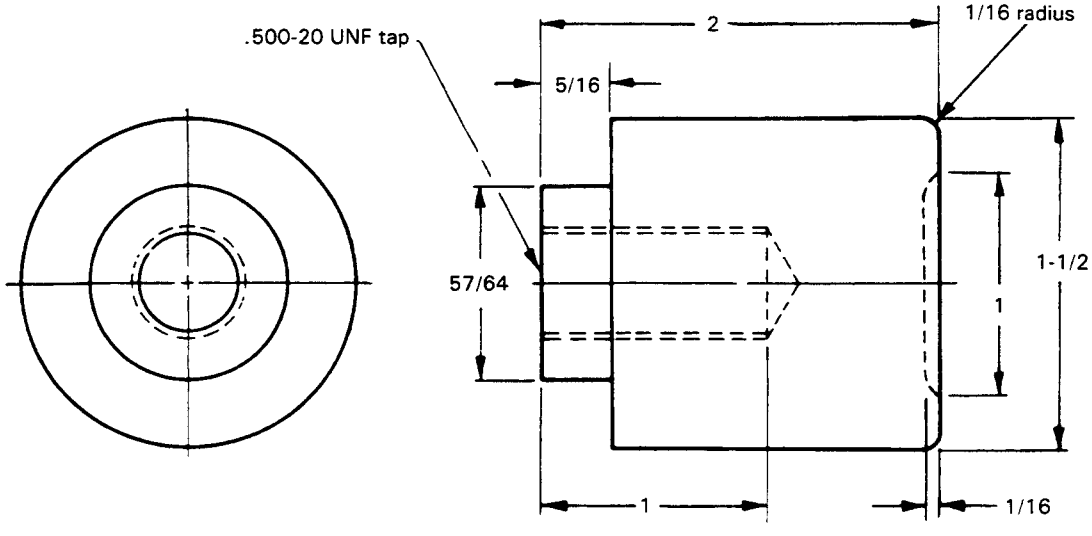
Range in Diameters		Diameter S	Range in Diameters		Diameter S
Above	To and Including		Above	To and Including	
1.510	2.010	1 7/16	5.010	5.510	4 15/16
2.010	2.510	1 15/16	5.510	6.010	5 7/16
2.510	3.010	2 7/16	6.010	6.510	5 15/16
3.010	3.510	2 15/16	6.510	7.010	6 7/16
3.510	4.010	3 7/16	7.010	7.510	6 15/16
4.010	4.510	3 15/16	7.510	8.010	7 7/16
4.510	5.010	4 7/16			

GENERAL NOTE: All dimensions are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale



No. 6 Grip — range 1.510 in. to and including 2.510 in.



No. 7 Grip — range 2.510 in. to and including 8.010 in.

FIG. 21 INSULATING GRIPS FOR MASTER DISKS — RANGE ABOVE 1.510 IN. TO AND INCLUDING 8.010 IN.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

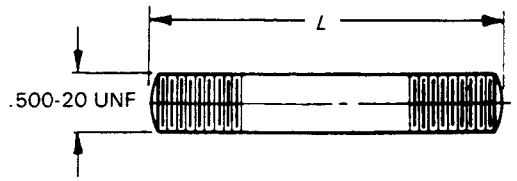


TABLE 81 TIE RODS FOR MASTER DISKS — RANGE ABOVE 1.510 IN. TO AND INCLUDING 8.010 IN.

Range in Diameters		Length *L*		
Above	To and Including	GO Style 1	GO and NOT GO Style 2	NOT GO Style 3
1.510	2.510	2 1/2	2 1/2	1 3/8
2.510	8.010	2	3 1/8	2

GENERAL NOTE: All dimensions are in inches.

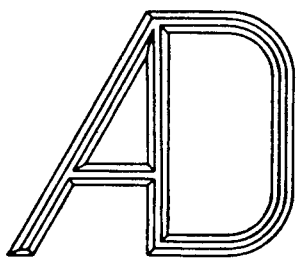


FIG. 22 OFFICIAL MONOGRAM FOR DESIGNATING PRODUCTS MADE TO AMERICAN GAGE DESIGN STANDARDS

4 OFFICIAL MONOGRAM FOR DESIGNATING PRODUCTS MADE TO AMERICAN GAGE DESIGN STANDARDS

The optional use of the monogram shown in Fig. 22 to identify gages made to American Gage Design Standards is sanctioned by the Committee. The monogram, it will be noted, consists of the initials "AD," the right-hand side of the "A" and the straight side of the "D" being common. The monogram, if used, should be placed adjacent to the maker's trademark.

5 APPLICATION OF AMERICAN GAGE DESIGN STANDARDS TO SPECIAL TYPES OF GAGES — RECOMMENDED PRACTICE

(*a*) While the American Gage Design Standards have been adopted with specific types and sizes of gages in mind, it is recommended that standard blanks, handles, etc., be used wherever practicable in the design and manufacture of special gages, the design of which does not come within the scope of the Committee's work.

(*b*) Where lengths and diameters are entirely special and blanks of standard dimensions cannot be utilized, it is further recommended that standard handles and fittings be used.

(*c*) Observance of the practices in (a) and (b) above will tend to reduce costs and facilitate procurement.

(*d*) There are many commonly used gages that are not adaptable to detailed standardization, but that can be classified, to advantage, as to types or general designs. A number of these have been considered, and it is recommended that the general constructions outlined in Figs. 23 through 26 (pp. 121–124) and Table 84 (p. 126) be adhered to whenever practicable.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

6 FLUSH PIN GAGES

(*a*) There are many and varied types of flush pin gages in use throughout industry. Although each gage is designed to fit a particular application, the body of the gage fits one of several basic design patterns in the greater majority of cases.

(*b*) Because of the wide use of this type of gage, some expansion to the previous design was in order, and several recommended styles with dimensions are practical for the different size ranges. It was felt that this would be a benefit to both users and suppliers.

(*c*) Four variations of style were adopted. These are illustrated in Table 83 (p. 125) and Figs. 25, 26, and 27 (pp. 123-127) as follows.

(*1*) Style 1 — the barrel type with pin diameters ranging from 0.250 to 0.750 (shown in Table 83).

(*2*) Style 2 — the bar type with bar lengths in 2 in. increments. While the 7/16 diameter pin seems the most common and thus shown as the standard, other pin diameters can be supplied according to application requirements as defined by the user (shown in Fig. 25).

(*3*) Styles 3A and 3B — the bar spanner and bar countersink type, being applicable for countersink depth dimensions or for depth dimensions where a straight pin will not reach (shown in Figs. 26 and 27). Figure 28 was added to illustrate a countersink application of the gage.

(*d*) The illustrations show the gaging step to be ground on the pin as this represents the more convenient and less expensive method of manufacture, and thus will be considered the standard method of completing those gages whose pin diameters are greater than 0.282 diameter. Gage users who prefer that the step be ground on the gage body should so specify when ordering. Gages having a pin diameter of 0.282 diameter or smaller will normally have the step ground on the body to facilitate greater efficiency of usage.

7 DOUBLE-END BUILT-UP SNAP GAGES

(*a*) Because built-up snap gages are always designed to fit special applications, they are not readily adaptable to detailed standardization. As a means of affording some measure of cost savings, however, the Committee has expanded the recommended design to cover two size ranges and has revised the dimensioning to provide greater applicability.

(*b*) Figure 29 (p. 128) shows the recommended dimensions for gages in the measuring range of 0.000 to 0.250, and Fig. 30 (p. 128) shows the dimensions for gages in the measuring range of above 0.250 to 1.000.

(*c*) The Committee would like to point out that while it is imperative that the upper and lower jaws be hardened, the center piece or spacer seldom needs to be hardened. Recommended material for the spacer is either mild steel or tool steel left soft. Cold rolled steel should never be used due to its instability.

8 FLAT PLUG GAGES

(*a*) The recommended design for flat plug gages is shown in Table 84 (p. 126) and Table 85 (p. 129), which indicates the gage thickness for the various size ranges. The thicknesses shown provide for the manufacture of blanks from available standard thicknesses of heat treatable flat ground stock. A progressive plug member is illustrated so as to include sufficient dimensioning to cover all gage types and applications.

(*b*) Recognizing that flat plug gages will perhaps be more often used as single-end NOT GO gages as a means of detecting oversize conditions where out-of-roundness exists, and when used as such, as well as in other applications, a handle would be highly desirable, the Committee has added a second illustration showing the additional dimensioning required to provide the threads and locking grooves necessary for handle attachment. A table accompanies this second illustration to show the thread and screw sizes for the two size ranges. Note that the dimensioning is such that the same tooling used for trilock gages can be used for the bilock design here recommended.

(*c*) It should be recognized that the addition of the provisions for the attachment of a handle adds an additional cost to the manufacture of the gage blank, and that in many applications the handle will not be a definite advantage. Gages, therefore, will be furnished with such provisions only specified by the user.

9 HANDLES, BILOCK, FOR FLAT PLUG GAGES

Handles for flat plug gages, as illustrated in Table 85 (p. 129), are of the bilock type with the configuration of the locking lugs developed so that manufacture can be accomplished using the same tooling as is used in the manufacture of trilock handles. These handles are hexagonal, and for the present are designed only for single-end application.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

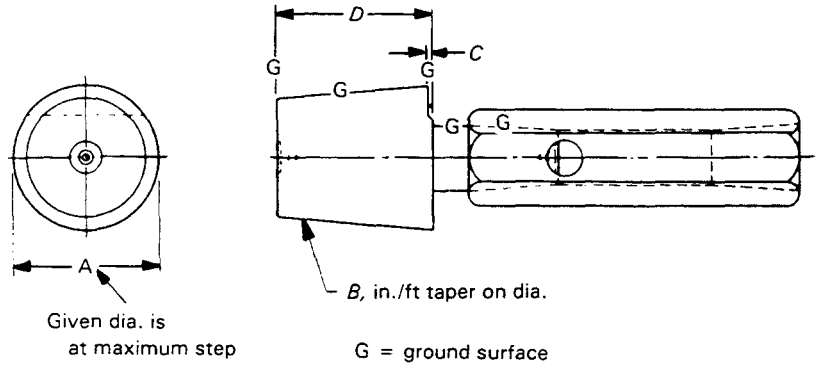


FIG. 23 RECOMMENDED DESIGN OF TAPER PLUG GAGE FOR SPECIAL APPLICATIONS AND METHOD OF DIMENSIONING

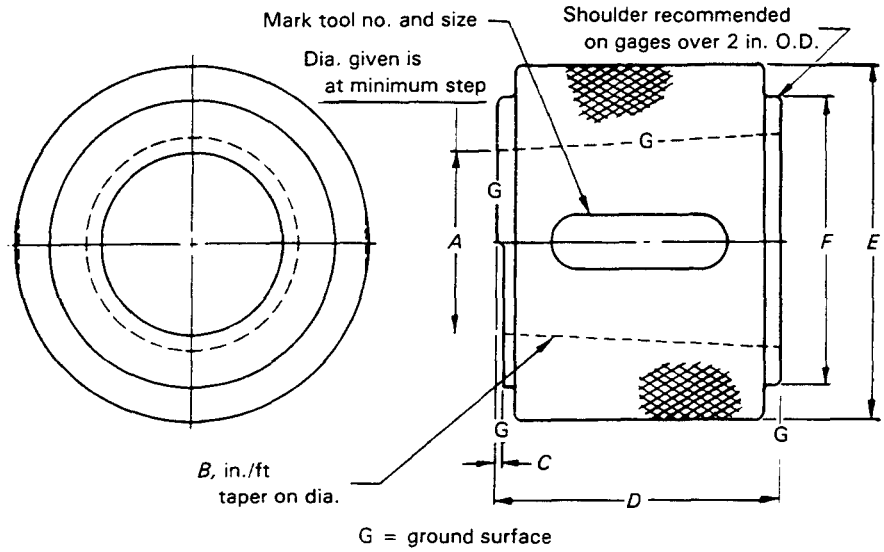


FIG. 24 RECOMMENDED DESIGN OF TAPER RING GAGE FOR SPECIAL APPLICATIONS AND METHOD OF DIMENSIONING

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

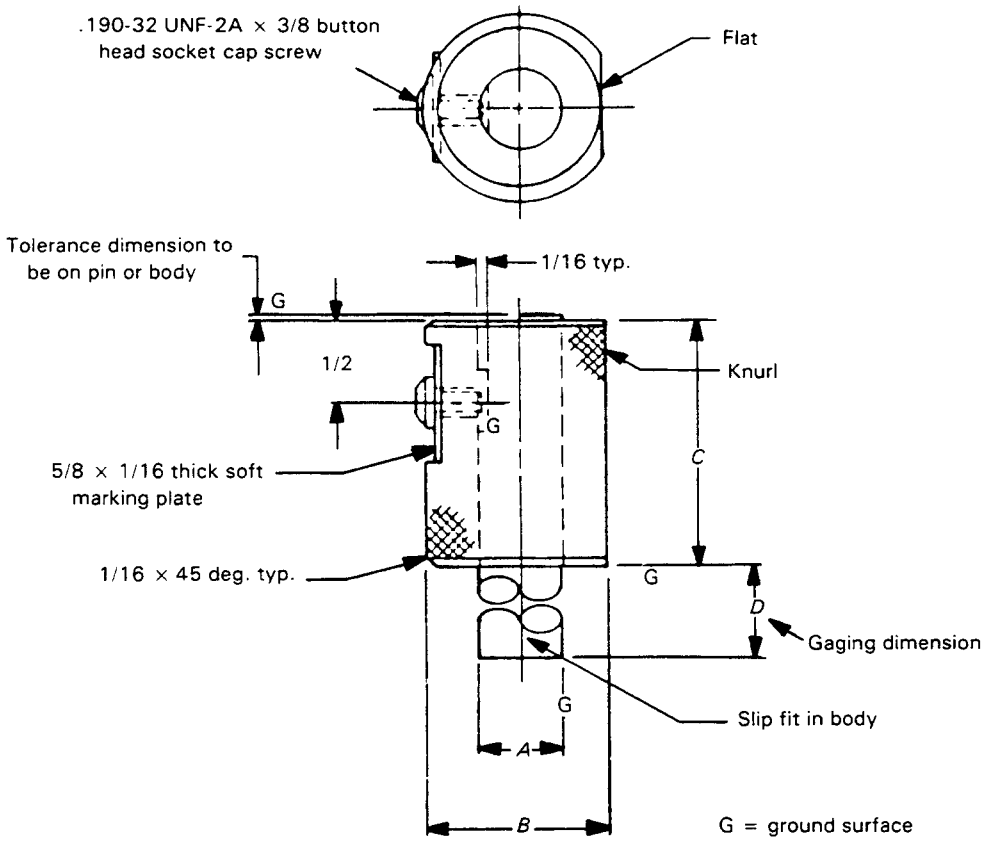


TABLE 82 RECOMMENDED DESIGN OF BARREL TYPE FLUSH PIN GAGE

Pin Size Range	Pin Dia. *A*	Barrel Dia. *B*	Barrel Length *C*	Max. Pin Length *D*
1/4	0.2500	1	1	2
5/16	.3125	1	1	2
3/8	.3750	1	1 1/4	2
7/16	.4375	1 1/16	1 3/8	2
1/2	.5000	1 1/8	1 1/2	2
9/16	.5625	1 3/16	1 5/8	2
5/8	.6250	1 1/4	1 3/4	2
11/16	.6875	1 5/16	1 7/8	2
3/4	.7500	1 3/8	2	2

GENERAL NOTE: All dimensions are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

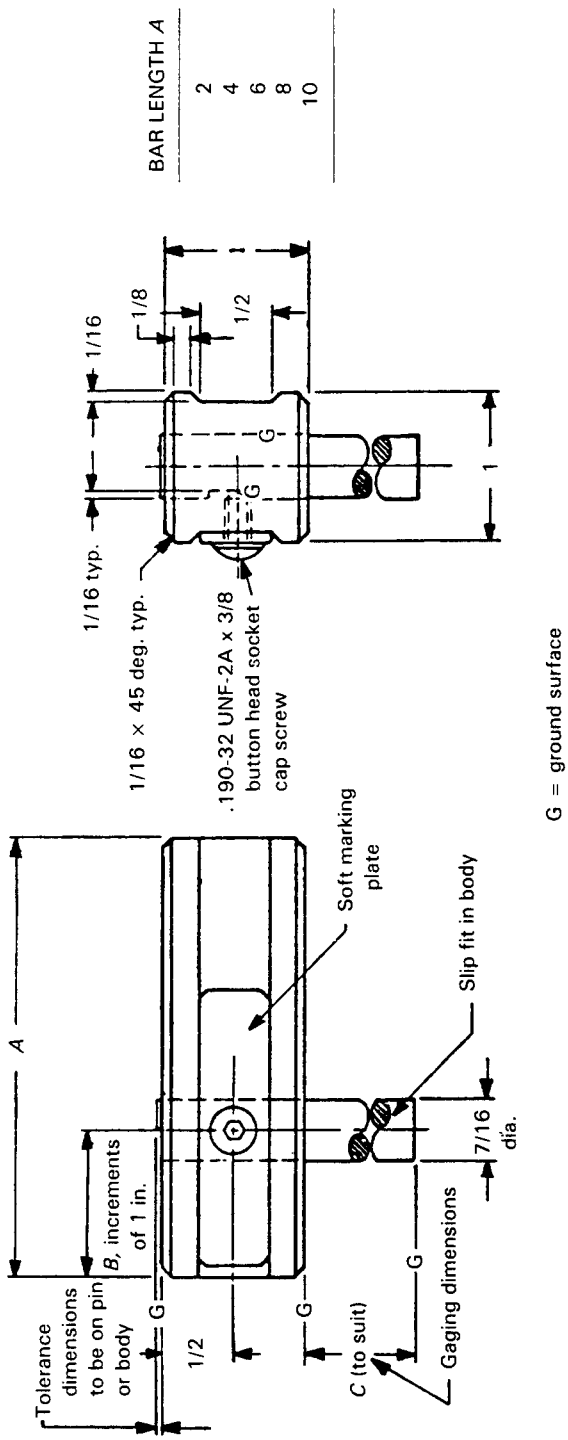


FIG. 25 RECOMMENDED DESIGN OF BAR TYPE FLUSH PIN GAGE

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

Not for Resale

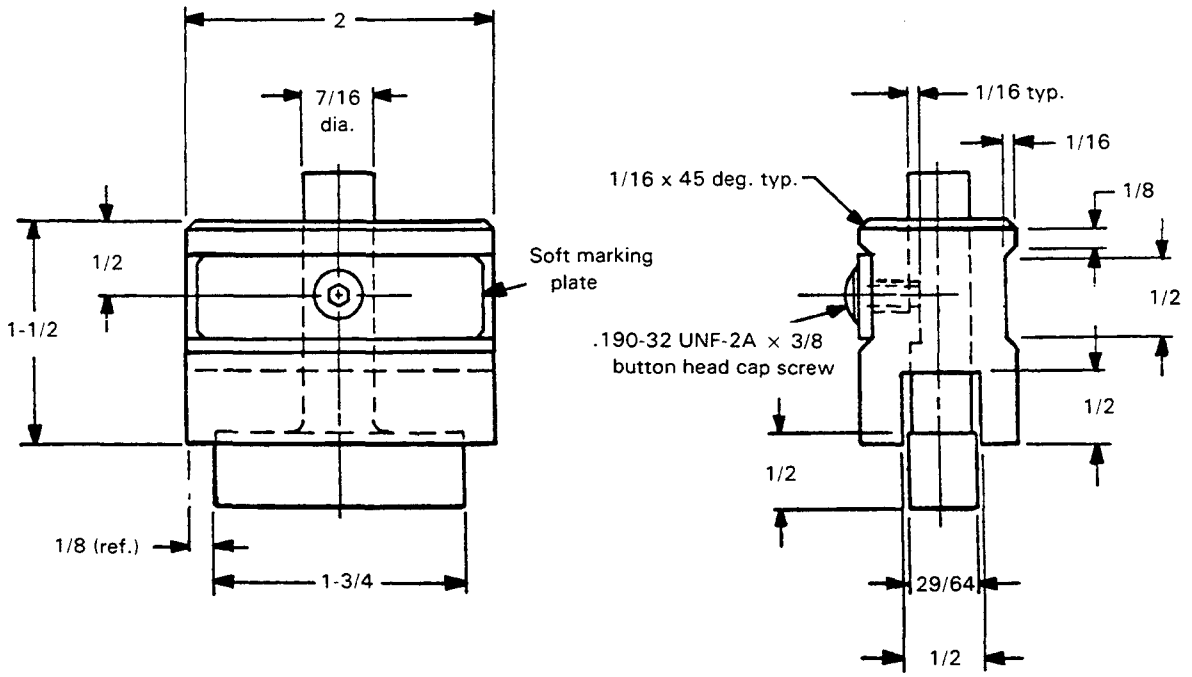
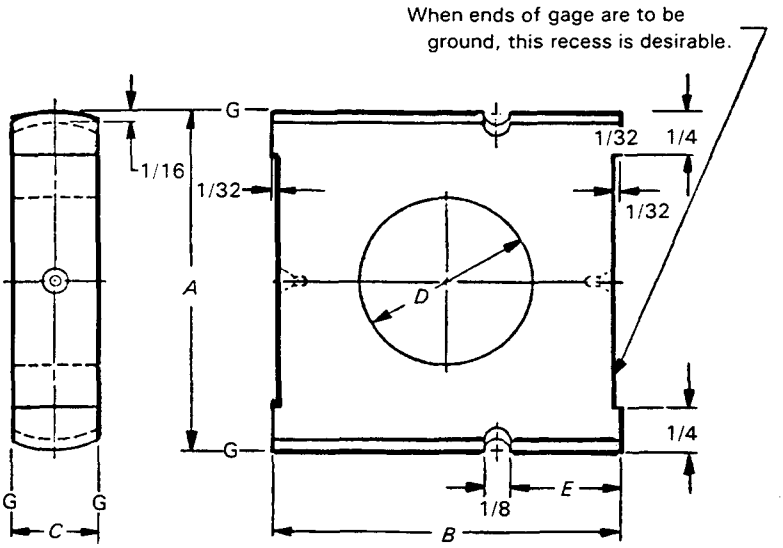


FIG. 26 RECOMMENDED DESIGN OF SMALL COUNTERSINK TYPE FLUSH PIN GAGE — RANGE 3/4 IN. TO 1 1/2 IN.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale



B, D, and *E* to suit

G = ground surface

TABLE 83 RECOMMENDED DESIGN OF FLAT PLUG GAGES — RANGE ABOVE 1.510 IN. TO AND INCLUDING 8.010 IN.

Range in Diameters *A*		
Above	To and Including	Thickness *C*
1.51	2.51	1/2
2.51	3.51	5/8
3.51	5.01	3/4
5.01	6.01	7/8
6.01	8.01	1

GENERAL NOTE: All dimensions are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

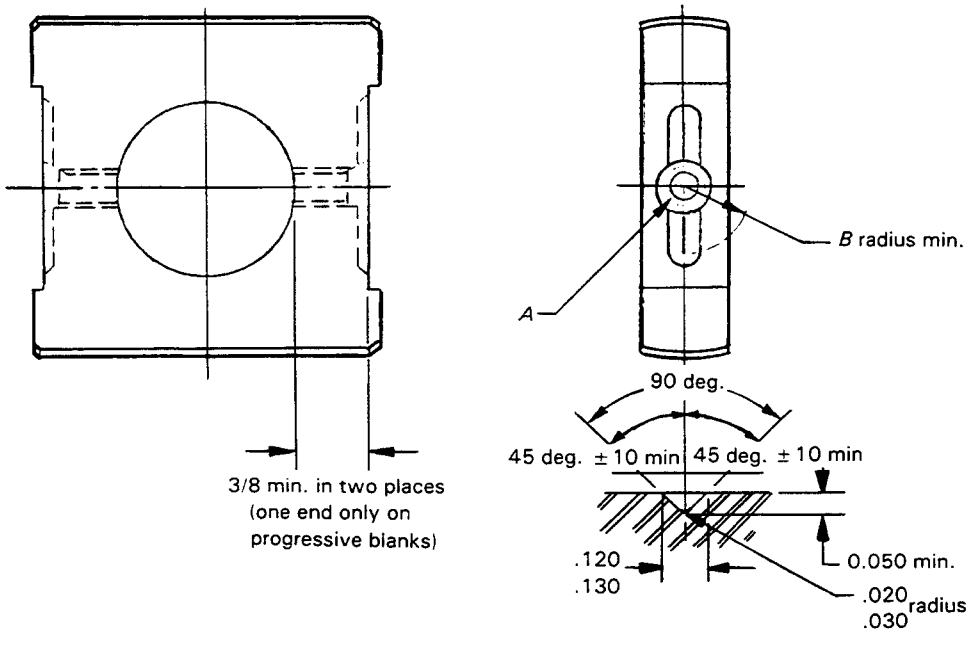
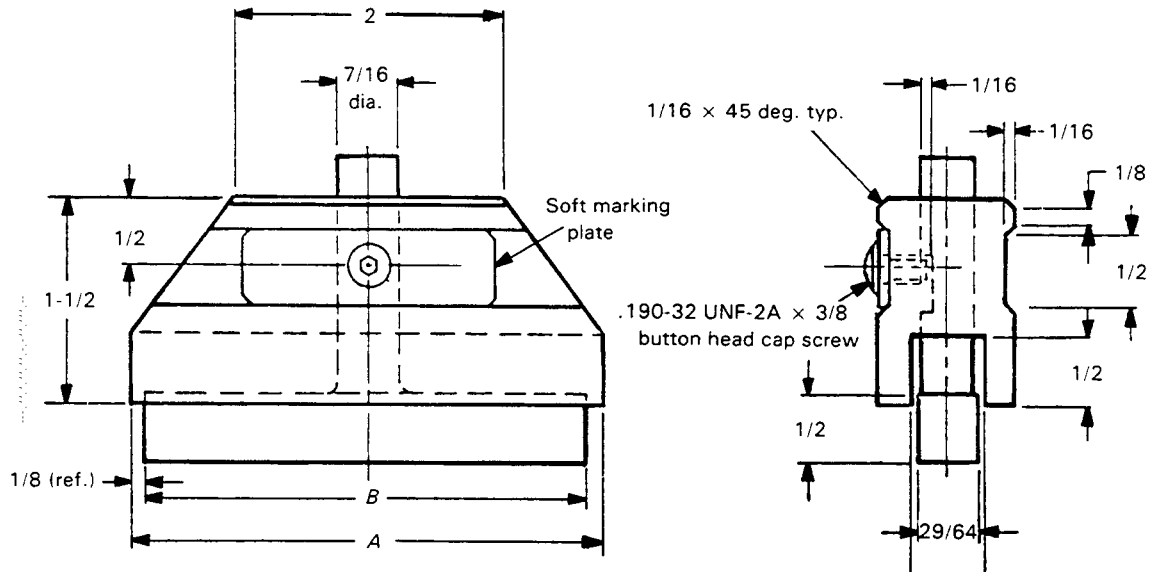


TABLE 84 FLAT PLUG GAGE — ADDITIONAL SPECIFICATIONS

Handle Size No.	Nominal Range, in.		Dimensions		Screw No.
	From	To	*A*	*B* in.	
1F	1.510	3.510	.250-20 UNC-2B	5/16	3
2F	3.510	8.510	.375-16 UNC-2B	13/32	4

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Flush pin gage — range 3/4 in. to 1-1/2 in.



Range	*A*	*B*
1 1/2–3	3 1/2	3 1/4
3–4	4 1/2	4 1/4

FIG. 27 RECOMMENDED DESIGN OF LARGE COUNTERSINK TYPE FLUSH PIN GAGE

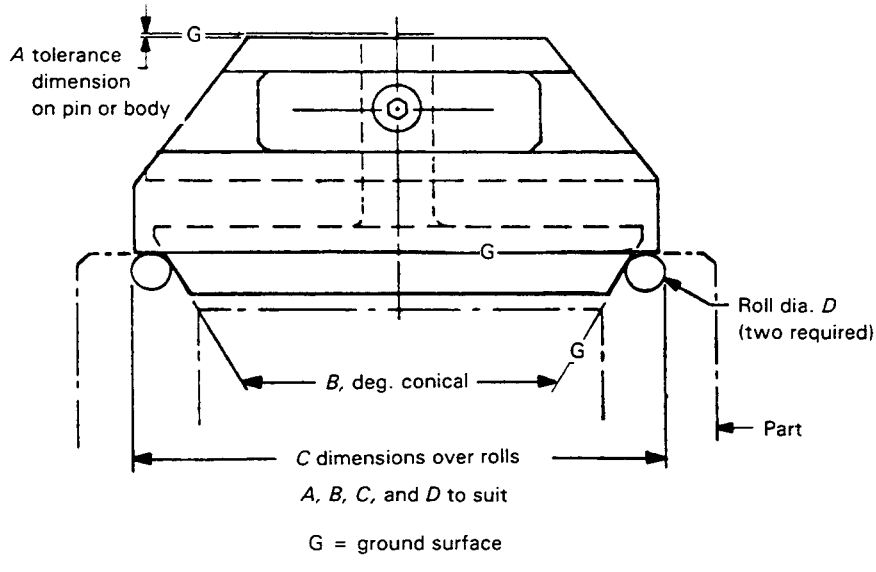


FIG. 28 APPLICATION OF COUNTERSINK TYPE

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS Not for Resale

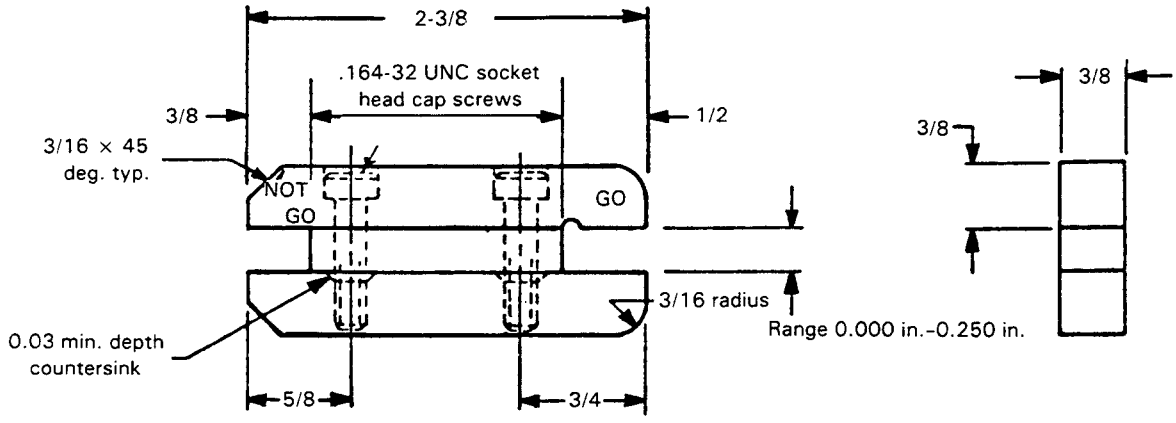


FIG. 29 RECOMMENDED DESIGN OF SMALL BUILT-UP SNAP GAGE

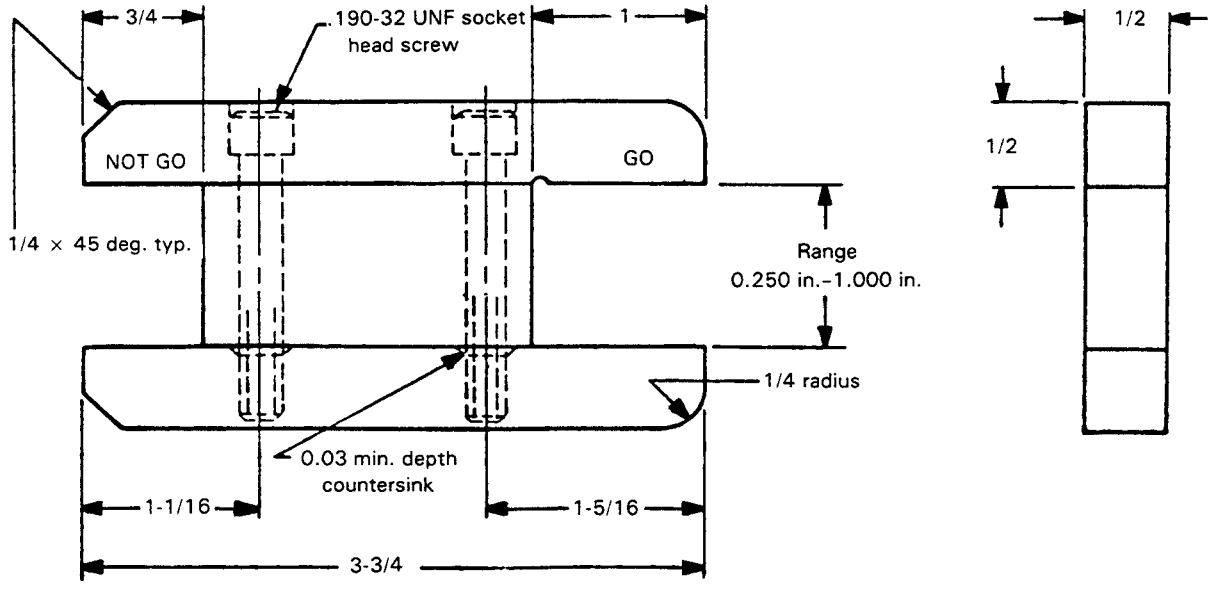


FIG. 30 RECOMMENDED DESIGN OF LARGE BUILT-UP SNAP GAGE

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

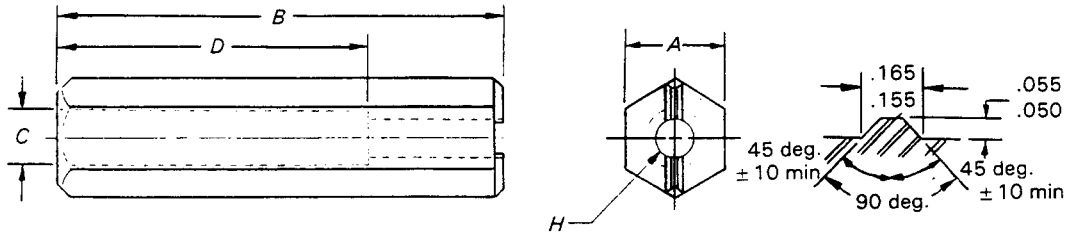


TABLE 85 HANDLE FOR FLAT PLUG GAGE

Handle Size No.	Nominal Range		General Dimensions					Screw No.
	From	To	*A*	*B*	*C*	*D*	*H*	
1F	1.510	3.510	1/2	4	25/64	3	17/64	3
2F	3.510	8.510	11/16	4	9/16	3	25/64	4

GENERAL NOTE: All dimensions are in inches.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

APPENDIX A
CONVERSION TABLE FROM INCH TO MILLIMETER

(This Appendix is an integral part of ASME/ANSI B47.1-1988 and is placed after the main text for convenience.)

Any dimension in this Standard can be converted by the addition of its components from the tables in this Appendix.

Consider the actual or implied precision of the values in customary units in determining the number of significant digits to be retained in the SI equivalents. (For an explanation of conversion techniques, see American National Standard Metric Practice, ANSI/IEEE 268-1982.)

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS Not for Resale

INCH TO MILLIMETER (FOR DECIMAL INCH VALUES OF LESS THAN 1 IN.)
(Do not interpolate.)

Inch	0.xx0	0.xx1	0.xx2	0.xx3	0.xx4	0.xx5	0.xx6	0.xx7	0.xx8	0.xx9
0.00	0.00	0.03	0.05	0.08	0.10	0.13	0.15	0.18	0.20	0.22
0.01	0.25	0.28	0.30	0.33	0.36	0.38	0.41	0.43	0.46	0.48
0.02	0.51	0.53	0.56	0.58	0.61	0.64	0.66	0.69	0.71	0.74
0.03	0.76	0.79	0.81	0.84	0.86	0.89	0.91	0.94	0.96	0.99
0.04	1.02	1.04	1.07	1.09	1.12	1.14	1.17	1.19	1.22	1.24
0.05	1.27	1.30	1.32	1.35	1.37	1.40	1.42	1.45	1.47	1.50
0.06	1.52	1.55	1.57	1.60	1.63	1.65	1.68	1.70	1.73	1.75
0.07	1.78	1.80	1.83	1.85	1.88	1.90	1.93	1.96	1.98	2.01
0.08	2.03	2.06	2.08	2.11	2.13	2.16	2.18	2.21	2.24	2.26
0.09	2.29	2.31	2.34	2.36	2.39	2.41	2.44	2.46	2.49	2.51
0.10	2.54	2.57	2.59	2.62	2.64	2.67	2.69	2.72	2.74	2.77
0.11	2.79	2.82	2.84	2.87	2.90	2.92	2.95	2.97	3.00	3.02
0.12	3.05	3.07	3.10	3.12	3.15	3.18	3.20	3.23	3.25	3.28
0.13	3.30	3.33	3.35	3.38	3.40	3.43	3.45	3.48	3.50	3.53
0.14	3.56	3.58	3.61	3.63	3.66	3.68	3.71	3.73	3.76	3.78
0.15	3.81	3.84	3.86	3.88	3.91	3.94	3.96	3.99	4.01	4.04
0.16	4.06	4.09	4.11	4.14	4.17	4.19	4.22	4.24	4.27	4.29
0.17	4.32	4.34	4.37	4.39	4.42	4.44	4.47	4.50	4.52	4.55
0.18	4.57	4.60	4.62	4.65	4.67	4.70	4.72	4.75	4.78	4.80
0.19	4.83	4.85	4.88	4.90	4.93	4.95	4.98	5.00	5.03	5.05
0.20	5.08	5.11	5.13	5.16	5.18	5.21	5.23	5.26	5.28	5.31
0.21	5.33	5.36	5.39	5.41	5.44	5.46	5.49	5.51	5.54	5.56
0.22	5.59	5.61	5.64	5.66	5.69	5.72	5.74	5.77	5.79	5.82
0.23	5.84	5.87	5.89	5.92	5.94	5.97	5.99	6.02	6.05	6.07
0.24	6.10	6.12	6.15	6.17	6.20	6.22	6.25	6.27	6.30	6.32
0.25	6.35	6.38	6.40	6.43	6.45	6.48	6.50	6.53	6.55	6.58
0.26	6.60	6.63	6.65	6.68	6.71	6.73	6.76	6.78	6.81	6.83
0.27	6.86	6.88	6.91	6.93	6.96	6.98	7.01	7.04	7.06	7.09
0.28	7.11	7.14	7.16	7.19	7.21	7.24	7.26	7.29	7.32	7.34
0.29	7.37	7.39	7.42	7.44	7.47	7.49	7.52	7.54	7.57	7.59
0.30	7.62	7.64	7.67	7.70	7.72	7.75	7.77	7.80	7.83	7.85
0.31	7.87	7.90	7.92	7.95	7.98	8.00	8.03	8.05	8.08	8.10
0.32	8.13	8.15	8.18	8.20	8.23	8.26	8.28	8.31	8.33	8.36
0.33	8.38	8.41	8.43	8.46	8.48	8.51	8.53	8.56	8.59	8.61
0.34	8.64	8.66	8.69	8.71	8.74	8.76	8.79	8.81	8.84	8.86
0.35	8.89	8.92	8.94	8.97	8.99	9.02	9.04	9.07	9.09	9.12
0.36	9.14	9.17	9.19	9.22	9.25	9.27	9.30	9.32	9.35	9.38
0.37	9.40	9.42	9.45	9.47	9.50	9.52	9.55	9.58	9.60	9.63
0.38	9.65	9.68	9.70	9.73	9.75	9.78	9.80	9.83	9.85	9.88
0.39	9.91	9.93	9.96	9.98	10.01	10.03	10.06	10.08	10.11	10.13
0.40	10.16	10.19	10.21	10.24	10.26	10.29	10.31	10.34	10.36	10.39
0.41	10.41	10.44	10.46	10.49	10.52	10.54	10.57	10.59	10.62	10.64
0.42	10.67	10.69	10.72	10.74	10.77	10.80	10.82	10.85	10.87	10.90
0.43	10.92	10.95	10.97	11.00	11.02	11.05	11.07	11.10	11.13	11.15
0.44	11.18	11.20	11.23	11.25	11.28	11.30	11.32	11.35	11.38	11.40
0.45	11.43	11.46	11.48	11.51	11.53	11.56	11.58	11.61	11.63	11.66
0.46	11.68	11.71	11.73	11.76	11.79	11.81	11.84	11.86	11.89	11.91
0.47	11.94	11.96	11.99	12.01	12.04	12.06	12.09	12.12	12.14	12.17
0.48	12.19	12.22	12.24	12.27	12.29	12.32	12.34	12.37	12.40	12.42
0.49	12.45	12.47	12.50	12.52	12.55	12.57	12.60	12.62	12.65	12.67

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Inch	0.xx0	0.xx1	0.xx2	0.xx3	0.xx4	0.xx5	0.xx6	0.xx7	0.xx8	0.xx9
0.50	12.70	12.73	12.75	12.78	12.80	12.83	12.85	12.88	12.90	12.93
0.51	12.95	12.98	13.00	13.03	13.06	13.08	13.11	13.14	13.16	13.18
0.52	13.21	13.23	13.26	13.28	13.31	13.34	13.36	13.39	13.41	13.44
0.53	13.46	13.49	13.51	13.54	13.56	13.59	13.61	13.64	13.67	13.69
0.54	13.71	13.74	13.77	13.79	13.82	13.84	13.87	13.89	13.92	13.94
0.55	13.97	14.00	14.02	14.05	14.07	14.10	14.12	14.15	14.17	14.20
0.56	14.22	14.25	14.27	14.30	14.33	14.35	14.38	14.40	14.43	14.45
0.57	14.48	14.50	14.53	14.55	14.58	14.60	14.63	14.66	14.68	14.71
0.58	14.73	14.76	14.78	14.81	14.83	14.86	14.88	14.91	14.94	14.96
0.59	14.99	15.01	15.04	15.06	15.09	15.11	15.14	15.16	15.19	15.21
0.60	15.24	15.27	15.29	15.32	15.34	15.37	15.39	15.42	15.44	15.47
0.61	15.49	15.52	15.54	15.57	15.60	15.62	15.65	15.67	15.70	15.72
0.62	15.75	15.77	15.80	15.82	15.85	15.88	15.90	15.93	15.95	15.98
0.63	16.00	16.02	16.05	16.08	16.10	16.13	16.15	16.18	16.21	16.23
0.64	16.26	16.28	16.31	16.33	16.36	16.38	16.41	16.43	16.46	16.48
0.65	16.51	16.54	16.56	16.59	16.61	16.64	16.66	16.69	16.71	16.74
0.66	16.76	16.79	16.81	16.84	16.87	16.89	16.92	16.94	16.97	16.99
0.67	17.02	17.04	17.07	17.09	17.12	17.14	17.17	17.20	17.22	17.25
0.68	17.27	17.30	17.32	17.35	17.37	17.40	17.42	17.45	17.48	17.50
0.69	17.53	17.55	17.58	17.60	17.63	17.65	17.68	17.70	17.73	17.75
0.70	17.78	17.81	17.83	17.86	17.88	17.91	17.93	17.96	17.98	18.01
0.71	18.03	18.06	18.08	18.11	18.14	18.16	18.19	18.21	18.24	18.26
0.72	18.29	18.31	18.34	18.36	18.39	18.42	18.44	18.47	18.49	18.52
0.73	18.54	18.57	18.59	18.62	18.64	18.67	18.69	18.72	18.75	18.77
0.74	18.80	18.82	18.85	18.87	18.90	18.92	18.95	18.97	19.00	19.02
0.75	19.05	19.08	19.10	19.13	19.15	19.18	19.20	19.23	19.25	19.28
0.76	19.30	19.33	19.35	19.38	19.41	19.43	19.46	19.48	19.51	19.53
0.77	19.56	19.58	19.61	19.63	19.66	19.68	19.71	19.74	19.76	19.79
0.78	19.81	19.84	19.86	19.89	19.91	19.94	19.96	19.99	20.02	20.04
0.79	20.07	20.09	20.12	20.14	20.17	20.19	20.22	20.24	20.27	20.29
0.80	20.32	20.35	20.37	20.40	20.42	20.45	20.47	20.50	20.52	20.55
0.81	20.57	20.60	20.62	20.65	20.68	20.70	20.73	20.75	20.78	20.80
0.82	20.83	20.85	20.88	20.90	20.93	20.96	20.98	21.01	21.03	21.06
0.83	21.08	21.11	21.13	21.16	21.18	21.21	21.23	21.26	21.29	21.31
0.84	21.34	21.36	21.39	21.42	21.44	21.46	21.49	21.51	21.54	21.56
0.85	21.59	21.62	21.64	21.67	21.69	21.72	21.74	21.77	21.79	21.82
0.86	21.84	21.87	21.89	21.92	21.95	21.97	22.00	22.02	22.05	22.07
0.87	22.10	22.12	22.15	22.17	22.20	22.22	22.25	22.28	22.30	22.33
0.88	22.35	22.38	22.40	22.43	22.45	22.48	22.50	22.53	22.56	22.58
0.89	22.61	22.63	22.66	22.68	22.71	22.73	22.76	22.78	22.81	22.83
0.90	22.86	22.89	22.91	22.94	22.96	22.99	23.01	23.04	23.06	23.09
0.91	23.11	23.14	23.16	23.19	23.22	23.24	23.27	23.29	23.32	23.34
0.92	23.37	23.39	23.42	23.44	23.47	23.50	23.52	23.55	23.57	23.60
0.93	23.62	23.65	23.67	23.70	23.72	23.75	23.77	23.80	23.83	23.85
0.94	23.88	23.90	23.93	23.95	23.98	24.00	24.03	24.05	24.08	24.10
0.95	24.13	24.16	24.18	24.21	24.23	24.26	24.28	24.31	24.33	24.36
0.96	24.38	24.41	24.43	24.46	24.49	24.51	24.54	24.56	24.59	24.61
0.97	24.64	24.66	24.69	24.71	24.74	24.76	24.79	24.82	24.84	24.87
0.98	24.89	24.92	24.94	24.97	24.99	25.02	25.04	25.07	25.10	25.12
0.99	25.15	25.17	25.20	25.22	25.25	25.27	25.30	25.32	25.35	25.37

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

APPENDIX B
METRIC EQUIVALENTS OF SELECTED TABLES

(This Appendix is an integral part of ASME/ANSI B47.1-1988 and is placed after the main text for convenience.)

The information in this Appendix establishes official metric diameter ranges and gaging lengths for plain and thread plug and ring gages and related handles, plus snap gage ranges. These are primarily soft conversion dimensions and will serve as a guide for metric conversions of other dimensions and tables in this Standard.

Reference is made to table numbers and pages of this Standard. This Appendix should serve to establish uniformity of metric gaging lengths, size ranges, etc., for gage drawings, catalogs, and other literature.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Metric Equivalent of Tables 1–5, pp. 6–10

HANDLES FOR PLAIN AND THREAD PLUG GAGES, WIRE TYPE DESIGN

Handle No.	Size Range			
	in.		mm	
	From	To and Including	From	To and Including
1W	0.010	0.075	0.25	1.91
2W	0.075	0.180	1.91	4.57
3W	0.180	0.281	4.57	7.14
4W	0.281	0.406	7.14	10.31
5W	0.406	0.510	10.31	12.95
6W	0.510	0.635	12.95	16.13
7W	0.635	0.760	16.13	19.30
8W	0.760	1.010	19.30	25.65

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS Not for Resale

Metric Equivalent of Table 6, p. 11

WIRE TYPE PLUG GAGE COLLET BUSHINGS, SIZE RANGES

Bushing No.	Size Range		Bushing No.	Size Range	
	in.	mm		in.	mm
1-W-.015	0.010-0.015	0.25-0.38	4-W-.331	0.321-0.331	8.15- 8.41
1-W-.020	0.015-0.020	0.38-0.51	4-W-.341	0.331-0.341	8.41- 8.66
1-W-.025	0.020-0.025	0.51-0.64	4-W-.351	0.341-0.351	8.66- 8.92
1-W-.030	0.025-0.030	0.64-0.76	4-W-.361	0.351-0.361	8.92- 9.17
1-W-.035	0.030-0.035	0.76-0.89	4-W-.371	0.361-0.371	9.17- 9.42
1-W-.040	0.035-0.040	0.89-1.02	4-W-.382	0.371-0.382	9.42- 9.70
1-W-.045	0.040-0.045	1.02-1.14	4-W-.394	0.382-0.394	9.70-10.01
1-W-.050	0.045-0.050	1.14-1.27	4-W-.406	0.394-0.406	10.01-10.31
1-W-.055	0.050-0.055	1.27-1.40	5-W-.420	0.406-0.420	10.31-10.67
1-W-.060	0.055-0.060	1.40-1.52	5-W-.435	0.420-0.435	10.67-11.05
1-W-.065	0.060-0.065	1.52-1.65	5-W-.450	0.435-0.450	11.05-11.43
1-W-.070	0.065-0.070	1.65-1.78	5-W-.465	0.450-0.465	11.43-11.81
1-W-.075	0.070-0.075	1.78-1.91	5-W-.480	0.465-0.480	11.81-12.19
2-W-.082	0.075-0.082	1.91-2.08	5-W-.495	0.480-0.495	12.19-12.57
2-W-.089	0.082-0.089	2.08-2.26	5-W-.510	0.495-0.510	12.57-12.95
2-W-.096	0.089-0.096	2.26-2.44	6-W-.532	0.510-0.532	12.95-13.51
2-W-.103	0.096-0.103	2.44-2.62	6-W-.547	0.532-0.547	13.51-13.89
2-W-.110	0.103-0.110	2.62-2.79	6-W-.563	0.547-0.563	13.89-14.30
2-W-.117	0.110-0.117	2.79-2.97	6-W-.579	0.563-0.579	14.30-14.71
2-W-.124	0.117-0.124	2.97-3.15	6-W-.594	0.579-0.594	14.71-15.09
2-W-.131	0.124-0.131	3.15-3.33	6-W-.610	0.594-0.610	15.09-15.49
2-W-.138	0.131-0.138	3.33-3.51	6-W-.625	0.610-0.625	15.49-15.88
2-W-.145	0.138-0.145	3.51-3.68	6-W-.635	0.625-0.635	15.88-16.13
2-W-.152	0.145-0.152	3.68-3.86	7-W-.656	0.635-0.656	16.13-16.66
2-W-.159	0.152-0.159	3.86-4.04	7-W-.672	0.656-0.672	16.66-17.07
2-W-.166	0.159-0.166	4.04-4.22	7-W-.688	0.672-0.688	17.07-17.48
2-W-.173	0.166-0.173	4.22-4.39	7-W-.704	0.688-0.704	17.48-17.88
2-W-.180	0.173-0.180	4.39-4.57	7-W-.719	0.704-0.719	17.88-18.26
3-W-.188	0.180-0.188	4.57-4.78	7-W-.735	0.719-0.735	18.26-18.67
3-W-.196	0.188-0.196	4.78-4.98	7-W-.750	0.735-0.750	18.67-19.05
3-W-.204	0.196-0.204	4.98-5.18	7-W-.760	0.750-0.760	19.05-19.30
3-W-.212	0.204-0.212	5.18-5.38	8-W-.781	0.760-0.781	19.30-19.84
3-W-.220	0.212-0.220	5.38-5.59	8-W-.812	0.781-0.812	19.84-20.62
3-W-.228	0.220-0.228	5.59-5.79	8-W-.843	0.812-0.843	20.62-21.41
3-W-.236	0.228-0.236	5.79-5.99	8-W-.875	0.843-0.875	21.41-22.23
3-W-.244	0.236-0.244	5.99-6.20	8-W-.906	0.875-0.906	22.23-23.01
3-W-.252	0.244-0.252	6.20-6.40	8-W-.937	0.906-0.937	23.01-23.80
3-W-.261	0.252-0.261	6.40-6.63	8-W-.968	0.937-0.968	23.80-24.59
3-W-.271	0.261-0.271	6.63-6.88	8-W-1.010	0.968-1.010	24.59-25.65
3-W-.281	0.271-0.281	6.88-7.14			
4-W-.291	0.281-0.291	7.14-7.39			
4-W-.301	0.291-0.301	7.39-7.65			
4-W-.311	0.301-0.311	7.65-7.90			
4-W-.321	0.311-0.321	7.90-8.15			

GENERAL NOTE: Bushings must be adjustable for any plug within the respective size ranges tabulated.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Metric Equivalent of Tables 7 and 8, pp. 12 and 13

HANDLES FOR PLAIN AND THREAD PLUG GAGES, TAPER LOCK DESIGN

	Size Range			
	in.		mm	
Handle No.	From	To and Including	From	To and Including
000	0.059	0.105	1.50	2.67
00	0.105	0.150	2.67	3.81
0	0.150	0.230	3.81	5.84
1	0.230	0.365	5.84	9.27
2	0.365	0.510	9.27	12.95
3	0.510	0.825	12.95	20.96
4	0.825	1.135	20.96	28.83
5	1.135	1.510	28.83	38.35

Metric Equivalent of Table 9, pp. 14, 15

HANDLES FOR PLAIN AND THREAD PLUG GAGES, TRILOCK DESIGN

	Size Range			
	in.		mm	
Handle No.	From	To and Including	From	To and Including
2½	0.760	0.947	19.30	24.05
3½	0.947	1.135	24.05	28.83
4½	1.135	1.510	28.83	38.35
5½	1.510	2.010	38.35	51.05
6	2.010	2.510	51.05	63.75
7	2.510	8.010	63.75	203.45

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Metric Equivalent of Tables 10 and 12, pp. 16 and 18

PLAIN CYLINDRICAL PLUG GAGE MEMBERS, TAPER LOCK DESIGN

Handle No.	Size Range				Gaging Length			
	in.		mm		in.		mm	
	From	To and Including	From	To and Including	GO	NOT GO	GO	NOT GO
000	0.059	0.105	1.50	2.67	3/8	3/16	9.5	4.8
00	0.105	0.150	2.67	3.81	3/8	7/32	9.5	5.6
0	0.150	0.230	3.81	5.84	13/32	9/32	10.3	7.1
1	0.230	0.365	5.84	9.27	3/4	5/16	19.0	7.9
2	0.365	0.510	9.27	12.95	1	3/8	25.4	9.5
3	0.510	0.825	12.95	20.96	1 1/4	1/2	31.8	12.7
4	0.825	1.135	20.96	28.83	1 1/2	5/8	38.1	15.9
5	1.135	1.510	28.83	38.35	1 5/8	3/4	41.3	19.1

Metric Equivalent of Table 11, p. 17

PLAIN CYLINDRICAL PLUG GAGE MEMBERS, WIRE TYPE DESIGN

Handle No.	Size Range				Gaging Length (Minimum)	
	in.		mm		GO and NOT GO	
	From	To and Including	From	To and Including	in.	mm
1W	0.010	0.075	0.25	1.91	1	25.4
2W	0.075	0.180	1.91	4.57	1 1/4	31.8
3W	0.180	0.281	4.57	7.14	1 1/2	38.1
4W	0.281	0.406	7.14	10.31	1 3/4	44.4
5W	0.406	0.510	10.31	12.95	2	50.8
6W	0.510	0.635	12.95	16.13	2	50.8
7W	0.635	0.760	16.13	19.30	2	50.8
8W	0.760	1.010	19.30	25.65	2	50.8

Metric Equivalent of Tables 13, 14, and 15, pp. 19, 20, and 22

PLAIN CYLINDRICAL PLUG GAGE MEMBERS, TRILOCK DESIGN, ANNULAR DESIGN

Handle No.	Size Range				Gaging Length			
	in.		mm		in.		mm	
	From	To and Including	From	To and Including	GO	NOT GO	GO	NOT GO
2 1/2	0.760	0.947	19.30	24.05	1 1/4	3/4	31.8	19.0
3 1/2	0.947	1.135	24.05	28.83	1 3/8	3/4	34.9	19.0
4 1/2	1.135	1.510	28.83	38.35	1 1/2	3/4	38.1	19.0
5 1/2	1.510	2.010	38.35	51.05	1 7/8	7/8	47.6	22.2
6	2.010	2.510	51.05	63.75	2	7/8	50.8	22.2
7	2.510	3.510	63.75	89.15	2	1	50.8	25.4
7	3.510	8.010	89.15	203.45	2 1/8	1	54.0	25.4
7 (1)	8.010	12.010	203.45	305.05	2 1/4	1	57.2	25.4

NOTE:
(1) This is annular design, using No. 7 ball type handles.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Metric Equivalent of Tables 16 and 18, pp. 25 and 27

THREAD PLUG GAGE MEMBERS, TAPER LOCK DESIGN

	Size Range				Gaging Length			
	in.		mm		in.		mm	
Handle No.	From	To and Including	From	To and Including	GO	NOT GO	GO	NOT GO
000	0.059	0.105	1.50	2.67	1/4	3/16	6.4	4.8
00	0.105	0.150	2.67	3.81	5/16	7/32	7.9	5.6
0	0.150	0.230	3.81	5.84	13/32	9/32	10.3	7.1
1	0.230	0.365	5.84	9.27	1/4	5/16	12.7	7.9
2	0.365	0.510	9.27	12.95	3/4	3/8	19.0	9.5
3	0.510	0.825	12.95	20.96	7/8	1/2	22.2	12.7
4	0.825	1.135	20.96	28.83	1	5/8	25.4	15.9
5 (1)	1.135	1.510	28.83	38.35	1 1/4 (2)	3/4	31.8 (2)	19.0
5 (3)	1.135	1.510	28.83	38.35	1 (4)	3/4	25.4 (4)	19.0

NOTES:
(1) TPI coarser than 12.
(2) Metric pitches larger than 2.
(3) TPI 12 and finer.
(4) Metric pitches 2 and smaller.

Metric Equivalent of Table 17, p. 26

THREAD PLUG GAGE MEMBERS, WIRE TYPE DESIGN

	Size Range				Gaging Length			
	in.		mm		in.		mm	
Handle No.	From	To and Including	From	To and Including	GO	NOT GO	GO	NOT GO
1W	0.030	0.075	0.76	1.91	1/2	1/2	12.7	12.7
2W	0.075	0.130	1.91	3.30	5/8	5/8	15.9	15.9
2W	0.130	0.180	3.30	4.57	3/4	3/4	19.0	19.0
3W	0.180	0.281	4.57	7.14	7/8	7/8	22.2	22.2
4W	0.281	0.320	7.14	8.13	1	1	25.4	25.4
4W	0.320	0.406	8.13	10.31	1 1/8	1 1/8	28.6	28.6
5W	0.406	0.450	10.31	11.43	1 1/4	1 1/4	31.8	31.8
5W	0.450	0.510	11.43	12.95	1 3/8	1 3/8	34.9	34.9
6W	0.510	0.635	12.95	16.13	1 1/2	1 3/8	38.1	34.9
7W	0.635	0.760	16.13	19.30	1 3/4	1 3/8	44.4	34.9
8W	0.760	1.010	19.30	25.65	2	1 1/2	50.8	38.1

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

Metric Equivalent of Tables 19–21, pp. 28–30

THREAD PLUG GAGE MEMBERS, TRILOCK DESIGN

	Size Range				Gaging Lengths							
					in.				mm			
	in.		mm		GO			NOT GO	GO			NOT GO
Handle No.	From	To and Including	From	To and Including	7 TPI and Coarser	Finer Than 7 TPI, Coarser Than 13	13 TPI and Finer	All TPI	3.5 mm Pitch and Larger	Smaller Than 3.5 mm Pitch, Larger Than 2	2 mm Pitch and Smaller	All Pitches
2 1/2	0.760	0.947	19.30	24.05	1 1/4	1	1	3/4	31.8	25.4	25.4	19.1
3 1/2	0.947	1.135	24.05	28.83	1 3/8	1 1/8	1	3/4	34.9	28.6	25.4	19.1
4 1/2	1.135	1.510	28.83	38.35	1 1/2	1 1/4	1	3/4	38.1	31.8	25.4	19.1
					GO			NOT GO	GO			NOT GO
Handle No.	From	To and Including	From	To and Including	7 TPI and Coarser	Finer Than 7 TPI, Coarser Than 16	16 TPI and Finer	All TPI	3.5 mm Pitch and Larger	Smaller Than 3.5 mm Pitch, Larger Than 1.5	1.5 mm Pitch and Smaller	All Pitches
5 1/2	1.510	2.010	38.35	51.05	1 7/8	1 1/4	7/8	7/8	47.6	31.8	22.2	22.2
6	2.010	2.510	51.05	63.75	2	1 3/8	7/8	7/8	50.8	34.9	22.2	22.2
7	2.510	3.010	63.75	76.45	2	1 1/2	1	1	50.8	38.1	25.4	25.4
7	3.010	3.510	76.45	89.15	2	1 1/2	1	1	50.8	38.1	25.4	25.4
7	3.510	4.010	89.15	101.85	2 1/8	1 1/2	1	1	54.0	38.1	25.4	25.4
7	4.010	4.510	101.85	114.55	2 1/8	1 1/2	1	1	54.0	38.1	25.4	25.4
7	4.510	5.010	114.55	127.25	2 1/8	1 1/2	1	1	54.0	38.1	25.4	25.4
7	5.010	8.010	127.25	203.45	2 1/8	1 1/2	1	1	54.0	38.1	25.4	25.4
7 (1)	8.010	12.010	203.45	305.05	2 1/4	1 1/2	1	1	57.2	38.1	25.4	25.4

NOTE:
(1) This is annular design, using No. 7 ball type handles.

Not for Resale

Metric Equivalent of Tables 22 and 23, pp. 31 and 32

FINE-PITCH INSTRUMENT THREAD PLUG GAGE MEMBERS

Handle No.	Size Range				TPI Finer Than	Metric Pitch Smaller Than	Gaging Lengths			
	in.		mm				in.		mm	
	From	To and Including	From	To and Including			GO	NOT GO	GO	NOT GO
Taper Lock Design										
000	0.059	0.105	1.50	2.67	80	0.3	3/16	1/8	4.8	3.2
00	0.105	0.150	2.67	3.81	60	0.4	7/32	5/32	5.6	4.0
0	0.150	0.230	3.81	5.84	48	0.5	9/32	7/32	7.1	5.6
1	0.230	0.365	5.84	9.27	40	0.6	5/16	1/4	7.9	6.4
2	0.365	0.510	9.27	12.95	36	0.7	3/8	5/16	9.5	7.9
3	0.510	0.825	12.95	20.96	32	0.8	1/2	3/8	12.7	9.5
4	0.825	1.135	20.96	28.83	28	0.9	5/8	7/16	15.9	11.1
5	1.135	1.510	28.83	38.35	28	0.9	3/4	1/2	19.0	12.7
Trilock Design										
5 1/2	1.510	2.010	38.35	51.05	28	0.9	3/4	5/8	19.0	15.9
6	2.010	2.510	51.05	63.75	28	0.9	3/4	5/8	19.0	15.9

Metric Equivalent of Table 24, p. 33

TRUNCATED TYPE THREAD SETTING PLUG GAGE MEMBERS, TAPER LOCK DESIGN

Handle No.	Size Range				Gaging Lengths					
	in.		mm		in.			mm		
	From	To and Including	From	To and Including	For Thin Ring	For Thick Ring	For Fine-Pitch Ring	For Thin Ring	For Thick Ring	For Fine-Pitch Ring
000	0.059	0.090	1.50	2.29	7/32	. . .	. . .	5.6	. . .	. . .
000	0.090	0.105	2.29	2.67	3/8	. . .	. . .	9.5	. . .	. . .
00	0.105	0.150	2.67	3.81	3/8	. . .	. . .	9.5	. . .	. . .
0	0.150	0.230	3.81	5.84	13/32	. . .	. . .	10.3	. . .	. . .
1	0.230	0.365	5.84	9.27	3/4	. . .	9/16	19.0	. . .	14.3
2	0.365	0.510	9.27	12.95	1	. . .	11/16	25.4	. . .	17.5
3	0.510	0.825	12.95	20.96	1 1/4	1 7/8	1	31.8	47.6	25.4
4	0.825	1.135	20.96	28.83	1 1/2	2 1/8	1 1/8	38.1	54.0	28.6
5	1.135	1.510	28.83	38.35	1 5/8	2 3/8	1 5/16	41.3	60.3	33.3

GENERAL NOTES:
(a) Gaging lengths are total thread lengths.
(b) Truncated section equals one-half these lengths.
(c) For definition of thin ring, thick ring, and fine-pitch ring, see thread ring gage Tables 32 and 33.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Metric Equivalent of Tables 25 and 26, pp. 34 and 35

TRUNCATED TYPE THREAD SETTING PLUG GAGE MEMBERS, TRILOCK DESIGN

	Size Range				Gaging Lengths					
	in.		mm		in.			mm		
Handle No.	From	To and Including	From	To and Including	For Thin Ring	For Thick Ring	For Fine-Pitch Ring	For Thin Ring	For Thick Ring	For Fine-Pitch Ring
5 1/2	1.510	2.010	38.35	51.05	1 7/8	2 7/8	1 5/16	47.6	73.0	33.3
6	2.010	2.510	51.05	63.75	2	3	1 7/16	50.8	76.2	36.5
7	2.510	3.010	63.75	76.45	2	3 1/8	. . .	50.8	79.4	. . .
7	3.010	3.510	76.45	89.15	2	3 1/8	. . .	50.8	79.4	. . .
7	3.510	4.010	89.15	101.85	2 1/8	3 1/4	. . .	54.0	82.6	. . .
7	4.010	4.510	101.85	114.55	2 1/8	3 1/4	. . .	54.0	82.6	. . .
7	4.510	5.010	114.55	127.25	2 1/8	3 1/4	. . .	54.0	82.6	. . .
7	5.010	5.510	127.25	139.95	2 1/8	3 1/4	. . .	54.0	82.6	. . .
7	5.510	5.010	139.95	152.65	2 1/8	3 1/4	. . .	54.0	82.6	. . .
7	6.010	6.510	152.65	165.35	2 1/8	3 1/4	. . .	54.0	82.6	. . .

GENERAL NOTES:
(a) Gaging lengths are total thread lengths.
(b) Truncated section equals one-half these lengths.
(c) For definition of thin ring, thick ring, and fine-pitch ring, see thread ring gage Tables 32, 33, and 34.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Metric Equivalent of Tables 29 and 30, pp. 39 and 40

PLAIN CYLINDRICAL RING GAGES

Ring Size No.	Size Range				Thickness	
	in.		mm			
	From	To and Including	From	To and Including	in.	mm
00	0.059	0.150	1.50	3.81	3/16	4.8
0	0.150	0.230	3.81	5.84	3/8	9.5
1	0.230	0.365	5.84	9.27	9/16	14.3
2	0.365	0.510	9.27	12.95	3/4	19.0
3	0.510	0.825	12.95	20.96	15/16	23.8
4	0.825	1.135	20.96	28.83	1 1/8	28.6
5	1.135	1.510	28.83	38.35	1 5/16	33.3
6	1.510	2.010	38.35	51.05	1 1/2	38.1
7	2.010	2.510	51.05	63.75	1 1/2	38.1
8	2.510	3.010	63.75	76.45	1 1/2	38.1
9	3.010	3.510	76.45	89.15	1 1/2	38.1
10	3.510	4.010	89.15	101.85	1 1/2	38.1
11	4.010	4.760	101.85	120.90	1 1/2	38.1
12	4.760	5.510	120.90	139.95	1 1/2	38.1
13	5.510	6.260	139.95	159.00	1 1/2	38.1
14	6.260	7.010	159.00	178.05	1 1/2	38.1
15	7.010	7.760	178.05	197.10	1 1/2	38.1
16	7.760	8.510	197.10	216.15	1 1/2	38.1
17	8.510	9.260	216.15	235.20	1 1/2	38.1
18	9.260	10.010	235.20	254.25	1 1/2	38.1
19	10.010	10.760	254.25	273.30	1 1/2	38.1
20	10.760	11.510	273.30	292.35	1 1/2	38.1
21	11.510	12.260	292.35	311.40	1 1/2	38.1

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Metric Equivalent of Table 32, pp. 48, 49

THREAD RING GAGES

Ring Size No.	Size Range				Thickness			
	in.		mm		in.		mm	
	From	To and Including	From	To and Including	Thin Blank	Thick Blank	Thin Blank	Thick Blank
1-T (1)	0.059	0.230	1.50	5.84	1/4	. . .	6.4	. . .
2-T	0.230	0.365	5.85	9.27	11/32	. . .	8.7	. . .
3-T	0.365	0.510	9.27	12.95	7/16	. . .	11.1	. . .
4-T	0.510	0.825	12.95	20.96	9/16	3/4	14.3	19.0
5-T	0.825	1.135	20.96	28.83	11/16	15/16	17.5	23.8
6-T	1.135	1.510	28.83	38.35	3/4	1 1/8	19.0	28.6
7-T	1.510	2.010	38.35	51.05	13/16	1 1/4	20.6	31.8
8-T	2.010	2.510	51.05	63.75	7/8	1 5/16	22.2	33.3
9-T	2.510	3.010	63.75	76.45	7/8	1 3/8	22.2	34.9
10-T	3.010	3.510	76.45	89.15	15/16	1 7/16	23.8	36.5
11-T	3.510	4.010	89.15	101.85	15/16	1 1/2	23.8	38.1
12-T	4.010	4.760	101.85	120.90	1	1 1/2	25.4	38.1

GENERAL NOTES:
(a) Solid working thread ring gages are of similar thickness and furnished without adjustment feature.

Determination of Thin or Thick Blanks
(b) Thin gage blanks are used for all NOT GO thread ring gages.
(c) For GO thread ring gages use thin or thick blanks as follows:

Size Range				Thin Blank		Thick Blank	
in.		mm					
From	To and Including	From	To and Including	in.	mm	in.	mm
0	0.510	0	12.95	All TPI	All pitches	. . .	. . .
0.510	1.135	12.95	28.83	12 TPI and finer except 9/16 -12	2 mm pitch and smaller	Coarser than 12 TPI	Larger than 2 mm pitch
1.135	6.010	28.83	152.65	10 TPI and finer	2.5 mm pitch and smaller	Coarser than 10 TPI	Larger than 2.5 mm pitch
6.010	12.260	152.65	311.40	. . .	. . .	All TPI	All pitches

NOTE:
(1) 1-T thread ring gages are counterbored equally from each face leaving thread lengths as follows:

Size Range				Thread Length	
in.		mm			
From	To and Including	From	To and Including	in.	mm
0.059	0.090	1.50	2.29	3/32	2.4
0.090	0.150	2.29	3.81	5/32	4.0
0.150	0.230	3.81	5.84	3/16	4.8

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS Not for Resale

Metric Equivalent of Table 33, p. 50

FINE-PITCH INSTRUMENT THREAD RING GAGES

Size Range				TPI Finer Than	Metric Pitch Smaller Than	Thread Length	
in.		mm					
From	To and Including	From	To and Including			in.	mm
0.230	0.365	5.84	9.27	40	0.6	1/4	6.4
0.365	0.510	9.27	12.95	36	0.7	5/16	7.9
0.510	0.825	12.95	20.96	32	0.8	15/32	11.9
0.825	1.135	20.96	28.83	28	0.9	17/32	13.5
1.135	1.510	28.83	38.35	28	0.9	5/8	15.9
1.510	2.010	38.35	51.05	28	0.9	5/8	15.9
2.010	2.510	51.05	63.75	28	0.9	11/16	17.5

GENERAL NOTES:
(a) Standard thread ring gage blanks are counterbored or thinned equally from each face, as shown on page 50, leaving threaded lengths as shown above.
(b) Solid working thread ring gages are of similar thickness and furnished without adjustment feature.

Metric Equivalent of Tables 34 and 35, pp. 51–53

THREAD RING GAGES, LARGE SIZES

	Size Range				Thickness			
	in.		mm		in.		mm	
Ring Size No.	From	To and Including	From	To and Including	Thin Blank	Thick Blank	Thin Blank	Thick Blank
13-T	4.760	5.510	120.90	139.95	1	1 1/2	25.4	38.1
14-T	5.510	6.260	139.95	159.00	1	1 1/2	25.4	38.1
15-T	6.260	7.010	159.00	178.05	1	1 1/2	25.4	38.1
16-T	7.010	7.760	178.05	197.10	1	1 1/2	25.4	38.1
17-T	7.760	8.510	197.10	216.15	1	1 1/2	25.4	38.1
18-T	8.510	9.260	216.15	235.20	1	1 1/2	25.4	38.1
19-T	9.260	10.010	235.20	254.25	1	1 1/2	25.4	38.1
20-T	10.010	10.760	254.25	273.30	1	1 1/2	25.4	38.1
21-T	10.760	11.510	273.30	292.35	1	1 1/2	25.4	38.1
22-T	11.510	12.260	292.35	311.40	1	1 1/2	25.4	38.1

GENERAL NOTES:
(a) For definition of thin ring or thick ring, see Table 32.
(b) Solid working thread ring gages are of similar thickness and furnished without adjustment feature.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Metric Equivalent of Table 39, pp. 58, 59

THREAD SETTING AND MASTER (REF.) RING GAGE BLANKS (SOLID)

Size Range				Thickness		
in.		mm		*B*		*C*
From	To and Including	From	To and Including	in.	mm	Pitches
0.059	0.150	1.50	3.81	0.125	3.18	4
0.150	0.230	3.81	5.84	0.167	4.24	4
0.230	0.365	5.84	9.27	0.167	4.24	4
0.365	0.510	9.27	12.95	0.200	5.08	4
0.510	0.825	12.95	20.96	0.286	7.26	4
0.825	1.135	20.96	28.83	0.333	8.46	4
1.135	1.510	28.83	38.35	0.333	8.46	4
1.510	2.010	38.35	51.05	0.333	8.46	4
2.010	2.510	51.05	63.75	0.333	8.46	4
2.510	3.010	63.75	76.45	0.333	8.46	4
3.010	3.510	76.45	89.15	0.500	12.70	4
3.510	4.010	89.15	101.85	0.500	12.70	4
4.010	4.760	101.85	120.90	0.500	12.70	4
4.760	5.385	120.90	136.78	0.500	12.70	4
5.385	6.010	136.78	152.65	0.500	12.70	4

REFERENCE ONLY

MM Pitch	4-Pitch Length		MM Pitch	4-Pitch Length	
	in.	mm		in.	mm
0.35	0.055	1.4	1.75	0.276	7.0
0.4	0.063	1.6	2	0.315	8.0
0.45	0.071	1.8	2.5	0.394	10.0
0.5	0.079	2.0	3	0.472	12.0
0.6	0.094	2.4	3.5	0.551	14.0
0.7	0.110	2.8	4	0.630	16.0
0.75	0.118	3.0	4.5	0.709	18.0
0.8	0.126	3.2	5	0.787	20.0
1	0.157	4.0	5.5	0.866	22.0
1.25	0.197	5.0	6	0.945	24.0
1.5	0.236	6.0			

GENERAL NOTES:
(a) See notes on pp. 58 and 59 for explanation of *B* and *C* thicknesses and other details.
(b) For solid working thread ring gages, refer to notes to Tables 32, 33, 34, and 36.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Metric Equivalent of Table 60, pp. 90, 91

PLAIN ADJUSTABLE SNAP GAGES

Model A					Model B				
	Range					Range			
	in.		mm			in.		mm	
Frame No.	From	To and Including	From	To and Including	Frame No.	From	To and Including	From	To and Including
A-1	0	1/2	0	12.7					
A-2	1/2	1	12.7	25.4					
A-3	1	1 1/2	25.4	38.1	B-3	1/2	1	12.7	25.4
A-4	1 1/2	2	38.1	50.8	B-4	1	1 1/2	25.4	38.1
A-5	2	2 1/2	50.8	63.5	B-5	1 1/2	2	38.1	50.8
A-6	2 1/2	3	63.5	76.2	B-6	2	2 1/2	50.8	63.5
A-7	3	3 3/4	76.2	95.2	B-7	2 1/2	3 1/8	63.5	79.4
A-8	3 3/4	4 1/2	95.2	114.3	B-8	3 1/8	3 7/8	79.4	98.4
A-9	4 1/2	5 1/4	114.3	133.4	B-9	3 7/8	4 5/8	98.4	117.5
A-10	5 1/4	6	133.4	152.4	B-10	4 5/8	5 3/8	117.5	136.5
A-11	6	7	152.4	177.8	B-11	5 3/8	6 1/4	136.5	158.8
A-12	7	8	177.8	203.2	B-12	6 1/4	7 1/4	158.8	184.2
A-13	8	9	203.2	228.6	B-13	7 1/4	8 1/4	184.2	209.6
A-14	9	10	228.6	254.0	B-14	8 1/4	9 1/4	209.6	235.0
A-15	10	11	254.0	279.4	B-15	9 1/4	10 1/4	235.0	260.4
A-16	11	12	279.4	304.8	B-16	10 1/4	11 1/4	260.4	285.8

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Metric Equivalent of Table 61, pp. 92, 93

PLAIN ADJUSTABLE SNAP GAGES

Model C

Frame No.	Range in. From	Range in. To and Including	Range mm From	Range mm To and Including	Frame No.	Range in. From	Range in. To and Including	Range mm From	Range mm To and Including
C-1	0	1/4	0	6.4	C-9	4 3/16	4 9/16	106.4	115.9
C-2	1/4	1/2	6.4	12.7	C-9X	4 9/16	4 15/16	115.9	125.4
C-2X	1/2	3/4	12.7	19.0	C-10	4 15/16	5 5/16	125.4	134.9
C-3	3/4	1	19.0	25.4	C-10X	5 5/16	5 11/16	134.9	144.5
C-3X	1	1 1/4	25.4	31.8	C-11	5 11/16	6 1/8	144.5	155.6
					C-11X	6 1/8	6 5/8	155.6	168.3
C-4	1 1/4	1 1/2	31.8	38.1					
C-4X	1 1/2	1 3/4	38.1	44.4	C-12	6 5/8	7 1/8	168.3	181.0
C-5	1 3/4	2	44.4	50.8	C-12X	7 1/8	7 5/8	181.0	193.7
C-5X	2	2 1/4	50.8	57.2	C-13	7 5/8	8 1/8	193.7	206.4
C-6	2 1/4	2 1/2	57.2	63.5	C-13X	8 1/8	8 5/8	206.4	219.1
C-6X	2 1/2	2 3/4	63.5	69.8	C-14	8 5/8	9 1/8	219.1	231.8
					C-14X	9 1/8	9 5/8	231.8	244.5
C-7	2 3/4	3 1/16	69.8	77.8					
C-7X	3 1/16	3 7/16	77.8	87.3	C-15	9 5/8	10 1/8	244.5	257.2
C-8	3 7/16	3 13/16	87.3	96.8	C-15X	10 1/8	10 5/8	257.2	269.9
C-8X	3 13/16	4 3/16	96.8	106.4	C-16	10 5/8	11 1/8	269.9	282.6
					C-16X	11 1/8	11 5/8	282.6	295.3

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale



Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS

Not for Resale