ASME B18.6.8-2010

Thumb Screws and Wing Screws (Inch Series)

AN AMERICAN NATIONAL STANDARD

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ASME
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Three Park Avenue • New York, NY • 10016 USA

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

ASME issues written replies to inquiries concerning interpretations of technical aspects of this Standard. Periodically, certain actions of the ASME B18 Committee may be published as Cases. Cases and interpretations are published on the ASME Web site under the Committee Pages at http://cstools.asme.org as they are issued.

The American Society of Mechanical Engineers
Three Park Avenue, New York, NY 10016-5990

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FOREWORD

Development of this Standard began in 2004 and was completed in 2009 by B18 Subcommittee 6. This Standard was originally published by the Industrial Fasteners Institute (IFI) as IFI-156 in 2002. IFI agreed to participate in the conversion of this Standard from an IFI standard to an ASME standard. Since the completion of this ASME Standard, IFI-156 has been withdrawn from circulation. ASME B18.6.8 is the only standard covering the inch series for thumb and wing screws.

This Standard was approved by the ASME B18 Committee in December of 2009, and was approved by the American National Standards Institute on March 24, 2010.

ASME B18 COMMITTEE
Standardization of Bolts, Nuts, Rivets, Screws, Washers, and Similar Fasteners

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

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General. ASME Standards are developed and maintained with the intent to represent the consensus of concerned interests. As such, users of this Standard may interact with the Committee by requesting interpretations, proposing revisions, and attending Committee meetings. Correspondence should be addressed to:

Secretary, B18 Standards Committee
The American Society of Mechanical Engineers
Three Park Avenue
New York, NY 10016-5990
http://go.asme.org/Inquiry

Proposing Revisions. Revisions are made periodically to the Standard to incorporate changes that appear necessary or desirable, as demonstrated by the experience gained from the application of the Standard. Approved revisions will be published periodically.

The Committee welcomes proposals for revisions to this Standard. Such proposals should be as specific as possible, citing the paragraph number(s), the proposed wording, and a detailed description of the reasons for the proposal, including any pertinent documentation.

Proposing a Case. Cases may be issued for the purpose of providing alternative rules when justified, to permit early implementation of an approved revision when the need is urgent, or to provide rules not covered by existing provisions. Cases are effective immediately upon ASME approval and shall be posted on the ASME Committee Web page.

Requests for Cases shall provide a Statement of Need and Background Information. The request should identify the standard, the paragraph, figure or table number(s), and be written as a Question and Reply in the same format as existing Cases. Requests for Cases should also indicate the applicable edition(s) of the standard to which the proposed Case applies.

Interpretations. Upon request, the B18 Standards Committee will render an interpretation of any requirement of the Standard. Interpretations can only be rendered in response to a written request sent to the Secretary of the B18 Standards Committee.

The request for an interpretation should be clear and unambiguous. It is further recommended that the inquirer submit his/her request in the following format:

Subject: Cite the applicable paragraph number(s) and the topic of the inquiry.

Edition: Cite the applicable edition of the Standard for which the interpretation is being requested.

Question: Phrase the question as a request for an interpretation of a specific requirement suitable for general understanding and use, not as a request for an approval of a proprietary design or situation. The inquirer may also include any plans or drawings that are necessary to explain the question; however, they should not contain proprietary names or information.

Requests that are not in this format may be rewritten in the appropriate format by the Committee prior to being answered, which may inadvertently change the intent of the original request.

ASME procedures provide for reconsideration of any interpretation when or if additional information that might affect an interpretation is available. Further, persons aggrieved by an interpretation may appeal to the cognizant ASME Committee or Subcommittee. ASME does not "approve," "certify," "rate," or "endorse" any item, construction, proprietary device, or activity.

Attending Committee Meetings. The B18 Standards Committee regularly holds meetings that are open to the public. Persons wishing to attend any meeting should contact the Secretary of the B18 Standards Committee.

THUMB SCREWS AND WING SCREWS (INCH SERIES)

1 INTRODUCTORY NOTES

1.1 Scope

1.1.1 This Standard covers the general and dimensional data for the various types of thumb screws and wing screws recognized as standard.

1.1.2 The inclusion of dimensional data in this Standard is not intended to imply that all of the products described are stock production sizes. Purchasers must consult with suppliers concerning stock sizes.

1.2 Comparison With ISO Standards

There are no ISO standards at this time for these products.

1.3 Dimensions

All dimensions are in inches unless otherwise stated in this Standard. When nominal sizes are designated in decimals, zeros in the fourth place shall be omitted.

1.4 Terminology

For definition of terms other than those defined below relating to fasteners or components thereof used in this Standard, refer to ASME B18.12.

thumb screw: a screw with a flattened head designed for manual turning without a driver or wrench. The thumb screws covered by this Standard are classified by types on the basis of design characteristics. They consist of the following:

Type A thumb screws: forged one-piece screws with a shoulder under head that are available in two series: regular and heavy. Dimensions are given in Tables 1 and 2, respectively.

Type B thumb screws: forged one-piece screws without shoulder that are available in two series: regular and heavy. Dimensions are given in Tables 3 and 4, respectively.

wing screw: a screw with a wing-shaped head designed for manual turning without a driver or wrench. The wing screws covered by this Standard are classified first by type, on the basis of the method of manufacture, and secondly by style, on the basis of design characteristics. They consist of the following:

Type A wing screws: screws of two-piece construction with cold-formed or cold-forged wing portions of moderate height. In some sizes they are produced in regular, light, and heavy series to best suit the requirements of specific applications. Dimensions are given in Table 5.

Type B wing screws: screws of hot-forged one-piece construction available in two wing styles: Style 1, with wings of moderate height; and Style 2, with high wings. Dimensions are given in Tables 6 and 7, respectively.

Type C wing screws: screws available in two styles: Style 1, a one-piece die-cast construction with wings of moderate height; and Style 2, a two-piece construction with a die-cast wing portion of moderate height. Dimensions are given in Tables 8 and 9, respectively.

Type D wing screws: screws of two-piece welded construction with stamped sheet metal wing portions of moderate height. Dimensions are given in Table 10.

1.5 Referenced Standards

Unless otherwise specified, the referenced standards shall be the most recent issue.

ASME B1.1, Unified Inch Screw Threads (UN and UNR Thread Form)

ASME B1.3, Screw Thread Gaging Systems for Acceptability — Inch and Metric Screw Threads (UN, UNR, UNJ, M, and MJ)

ASME B18.2.9, Straightness Gage and Gaging for Bolts and Screws

ASME B18.12, Glossary of Terms for Mechanical Fasteners

ASME B18.18.2, Inspection and Quality Assurance for High-Volume Machine Assembly Fasteners

ASME B18.24, Part Identifying Number (PIN) Code System Standard for B18 Fastener Products

Publisher: The American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990; Order Department: 22 Law Drive, P.O. Box 2900, Fairfield, NJ 07007-2900 (www.asme.org)

ASTM DS-56I, Metals & Alloys in the Unified Numbering System (UNS)

ASTM F 788/788M, Standard Specification for Surface Discontinuities of Bolts, Screws, and Studs, Inch and Metric Series

ASTM F 1941, Standard Specification for Electrodeposited Coatings on Threaded Fasteners [Unified Inch Screw Threads (UN/UNR)]

Publisher: American Society for Testing and Materials (ASTM International), 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959 (www.astm.org)

1.6 Related Standards

ASME B18.6.9, Wing Nuts (Inch Series)

Publisher: The American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990; Order Department: 22 Law Drive, P.O. Box 2900, Fairfield, NJ 07007-2900 (www.asme.org)

2 GENERAL DATA

2.1 Heads and Wings

The details of head and wing contour shall be optional when the manufacturer provides and maintains dimensions in the applicable table. The design of two-piece wing screws shall be such that the wing portions shall be retained on and not rotate about the shank portions where screws are tightened and loosened with finger pressure.

2.2 Bearing Surface

The bearing surface of the shoulder on all wing screws and on Type A thumb screws shall be at right angles to the axis of the screw shank within a tolerance of 4 deg. The surface shall be free from burrs, fins, and protruding surface irregularities.

2.3 Length

2.3.1 Measurement. The length, L, of thumb or wing screws shall be measured parallel to the axis of the screw from the intersection of the head or shoulder with the shank to the extreme end of the screw.

2.3.2 Standard Lengths. The standard lengths within the practical screw length ranges specified in the respective dimensional tables for the various types and sizes of thumb and wing screws shall be as tabulated in Table 11.

2.3.3 Tolerance on Length. The tolerance on length of screw shall be as tabulated in Table 12.

2.4 Threads

Threads for all types of thumb screws and wing screws shall be in conformance with ASME B1.1, Class 2A, before plating or coating. The applicable thread size limits after plating or coating shall be Class 3A maximum and Class 2A minimum. Thread acceptability shall be determined using ASME B1.3, System 21.

2.5 Length of Thread

Screws shall have thread lengths conforming to Table 13.

2.6 Points

Thumb and wing screws shall be supplied with plain sheared ends. When specified, screws may be obtained with cone, cup, dog, flat, or oval points conforming to dimensions shown in Table 14.

2.7 Straightness

Wing and thumb screws shall be straight within the limits of 0.006 in./in. using the gage and procedure in ASME B18.2.9.

2.8 Material

2.8.1 Thumb Screws

2.8.1.1 Thumb screws of all types shall be made from low carbon steel per UNS designation G10060 or higher, having 48,000 psi min. ultimate tensile strength.

2.8.1.2 When specified, case-hardened thumb screws shall be supplied when using UNS designated low carbon steel G10180 or higher as defined in ASTM DS-56I.

2.8.1.3 Thumb screws may also be made from corrosion-resistant steel, brass, aluminum, or other materials as agreed upon by the supplier and purchaser.

2.8.2 Wing Screws

2.8.2.1 Type A. Type A wing screws shall be supplied in carbon steel with the shank portion case hardened. When specified, they may also be made from corrosion-resistant steel, brass, aluminum, or other materials as agreed upon by the supplier and purchaser.

2.8.2.2 Type B. Both portions of Type B wing screws shall be made from carbon steel per UNS designation G10060 or higher. When specified, they may also be made from corrosion-resistant steel, brass, aluminum, or other materials as agreed upon by the supplier and purchaser.

2.8.2.3 Type C. Type C, Style 1 wing screws shall be supplied only in die-cast zinc alloy such as UNS designation Z33520.

Type C, Style 2 wing screws shall have wing portion made from die-cast zinc alloy such as UNS designation Z33520 with shank portion made from low carbon steel per UNS designation G10060 or higher. When specified, the shank portion may be made from corrosion-resistant steel, brass, aluminum, or other materials as agreed upon by the supplier and purchaser.

2.8.2.4 Type D. Both portions of Type D wing screws shall be supplied in carbon steel per UNS designation G10060 or higher. When specified, they may also be made from corrosion-resistant steel, brass, aluminum, or other materials as agreed upon by the supplier and purchaser. See Table 15.

2.9 Finish

Unless otherwise specified, thumb screws and wing screws shall be supplied with a plain (unplated or uncoated) finish. When an electrodeposited finish is required, appropriate finish code in ASTM F 1941 shall be referenced.

2.10 Workmanship

Thumb and wing screws shall not contain an excess of surface imperfections that might affect their serviceability, such as burrs, seams, laps, loose scale, and other irregularities. When specified on the purchase order, surface discontinuities shall meet the requirements of ASTM F 788/788M for screws $\frac{1}{4}$ in. size and larger.

2.11 Designation

When specifying thumb and wing screws, the following data shall be included in this sequence:

(a) ASME B18.6.8
(b) standard type (wing screw or thumb screw)
(c) thread size including nominal diameter and threads per inch
(d) length (fractions or decimal equivalents)
(e) style and/or series
(f) point type (if other than sheared point)
(g) material
(h) finish

EXAMPLES: ASME B18.6.8, wing screw, $\frac{3}{8}$-16 × 2.00, Type B, Style 2, dog point, steel per UNS G10060, zinc plated per ASTM F 1941, Fe/Zn 3A

ASME B18.6.8, thumb screw, 10-32 × 1.00, Type A, regular, stainless steel per UNS S30400, plain finish

NOTE: The ASME product numbering system ASME B18.24 does not currently cover these products, but it may be added in the future.

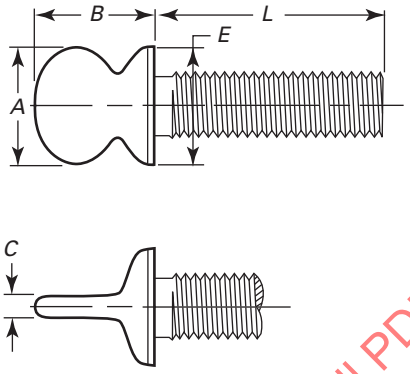
2.12 Manufacturer's Identification

Manufacturer's identification is not required unless specified by the purchaser.

2.13 Quality Assurance

Unless otherwise specified, wing screw and thumb screw acceptability shall be determined in accordance with ASME B18.18.2.

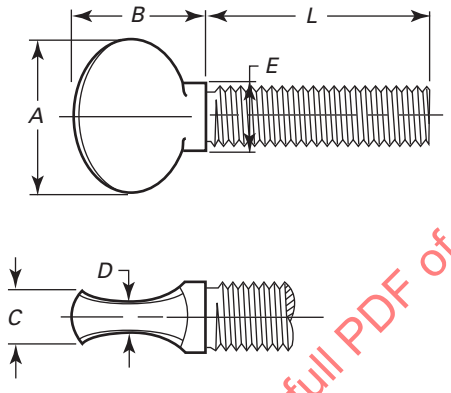
Table 1 Dimensions of Type A, Regular Thumb Screws



Regular

Nominal Size or Basic Screw Diameter	Threads per Inch	Head Width, *A*		Head Height, *B*		Head Thickness, *C*		Shoulder Diameter, *E*		Pratical Screw Lengths, *L*	
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
6 (0.1380)	32	0.31	0.29	0.33	0.31	0.05	0.04	0.25	0.23	0.75	0.25
8 (0.1640)	32	0.36	0.34	0.38	0.36	0.06	0.05	0.31	0.29	0.75	0.38
10 (0.1900)	24 and 32	0.42	0.40	0.48	0.46	0.06	0.05	0.35	0.32	1.00	0.38
12 (0.2160)	24	0.48	0.46	0.54	0.52	0.06	0.05	0.40	0.38	1.00	0.38
1/4 (0.2500)	20	0.55	0.52	0.64	0.61	0.07	0.05	0.47	0.44	1.50	0.50
5/16 (0.3125)	18	0.70	0.67	0.78	0.75	0.09	0.07	0.59	0.56	1.50	0.50
3/8 (0.3750)	16	0.83	0.80	0.95	0.92	0.11	0.09	0.76	0.71	2.00	0.75

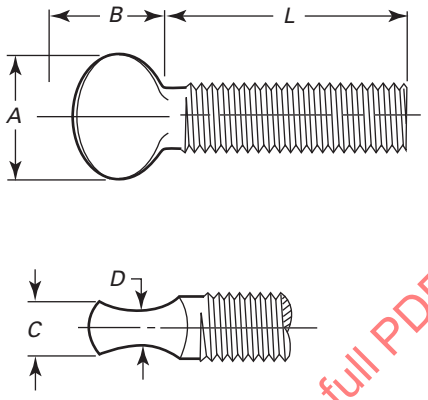
Table 2 Dimensions of Type A, Heavy Thumb Screws



Heavy

Nominal Size or Basic Screw Diameter	Threads per Inch	Head Width, *A*		Head Height, *B*		Head Thickness, *C*		Head Thickness, *D*		Shoulder Diameter, *E*		Pratical Screw Lengths, *L*	
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
10 (0.1900)	24	0.89	0.83	0.84	0.72	0.18	0.16	0.10	0.08	0.33	0.31	2.00	0.50
1/4 (0.2500)	20	1.05	0.99	0.94	0.81	0.24	0.22	0.10	0.08	0.40	0.38	3.00	0.50
5/16 (0.3125)	18	1.21	1.15	1.00	0.88	0.27	0.25	0.11	0.09	0.46	0.44	4.00	0.50
3/8 (0.3750)	16	1.41	1.34	1.16	1.03	0.30	0.28	0.11	0.09	0.55	0.53	4.00	0.50
7/16 (0.4375)	14	1.59	1.53	1.22	1.09	0.36	0.34	0.13	0.11	0.71	0.69	2.50	1.00
1/2 (0.5000)	13	1.81	1.72	1.28	1.16	0.40	0.38	0.14	0.12	0.83	0.81	3.00	1.00

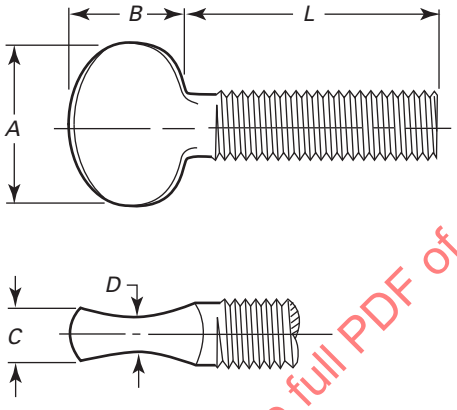
Table 3 Dimensions of Type B, Regular Thumb Screws



Regular

Nominal Size or Basic Screw Diameter	Threads per Inch	Head Width, *A*		Head Height, *B*		Head Thickness, *C*		Head Thickness, *D*		Pratical Screw Lengths, *L*	
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
6 (0.1380)	32	0.45	0.43	0.28	0.26	0.08	0.06	0.03	0.02	1.00	0.25
8 (0.1640)	32	0.51	0.49	0.32	0.30	0.09	0.07	0.04	0.02	1.00	0.38
10 (0.1900)	24 and 32	0.58	0.54	0.39	0.36	0.10	0.08	0.05	0.03	2.00	0.38
12 (0.2160)	24	0.71	0.67	0.45	0.43	0.11	0.09	0.05	0.03	2.00	0.38
1/4 (0.2500)	20	0.83	0.80	0.52	0.48	0.16	0.14	0.06	0.03	2.50	0.50
5/16 (0.3125)	18	0.96	0.91	0.64	0.60	0.17	0.14	0.09	0.06	3.00	0.50
3/8 (0.3750)	16	1.09	1.03	0.71	0.67	0.22	0.18	0.11	0.08	3.00	0.75
7/16 (0.4375)	14	1.40	1.35	0.96	0.91	0.27	0.24	0.14	0.11	4.00	1.00
1/2 (0.5000)	13	1.54	1.46	1.09	1.03	0.33	0.29	0.15	0.11	4.00	1.00

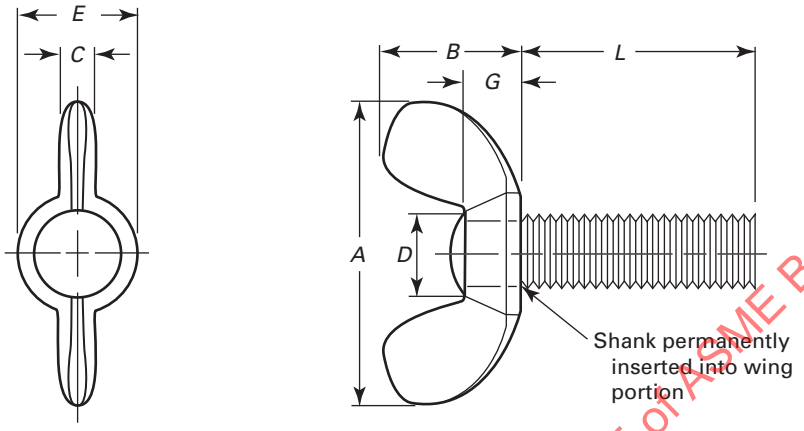
Table 4 Dimensions of Type B, Heavy Thumb Screws



Heavy

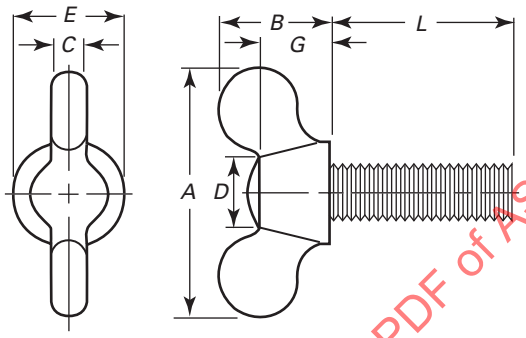
Nominal Size or Basic Screw Diameter	Threads per Inch	Head Width, *A*		Head Height, *B*		Head Thickness, *C*		Head Thickness, *D*		Pratical Screw Lengths, *L*	
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
10 (0.1900)	24	0.89	0.83	0.78	0.66	0.18	0.16	0.08	0.06	2.00	0.50
1/4 (0.2500)	20	1.05	0.99	0.81	0.72	0.24	0.22	0.11	0.09	3.00	0.50
5/16 (0.3125)	18	1.21	1.15	0.88	0.78	0.27	0.25	0.11	0.09	4.00	0.50
3/8 (0.3750)	16	1.41	1.34	0.94	0.84	0.30	0.28	0.14	0.12	4.00	0.50
7/16 (0.4375)	14	1.59	1.53	1.00	0.91	0.36	0.34	0.14	0.12	3.00	1.00
1/2 (0.5000)	13	1.81	1.72	1.09	0.97	0.40	0.38	0.18	0.16	3.00	1.00

Table 5 Dimensions of Type A, Wing Screws



Nominal Size or Basic Screw Diameter	Threads per Inch	Series	Head Blank Size (Ref)	Wing Spread, *A*		Wing Height, *B*		Wing Thickness, *C*		Between Wings, *D*		Boss Diameter, *E*		Boss Height, *G*		Practical Screw Lengths, *L*	
				Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
4 (0.1120)	40	Heavy	AA	0.72	0.59	0.41	0.28	0.11	0.07	0.21	0.17	0.33	0.29	0.14	0.10	0.75	0.25
6 (0.1380)	32	Light	AA	0.72	0.59	0.41	0.28	0.11	0.07	0.21	0.17	0.33	0.29	0.14	0.10	0.75	0.25
		Heavy	**A**	**0.91**	**0.78**	**0.47**	**0.34**	**0.14**	**0.10**	**0.27**	**0.22**	**0.43**	**0.39**	**0.18**	**0.14**	**0.75**	**0.25**
8 (0.1640)	32	**Light**	**A**	**0.91**	**0.78**	**0.47**	**0.34**	**0.14**	**0.10**	**0.27**	**0.22**	**0.43**	**0.39**	**0.18**	**0.14**	**0.75**	**0.38**
		Heavy	B	1.10	0.97	0.57	0.43	0.18	0.14	0.33	0.26	0.50	0.45	0.22	0.17	0.75	0.38
10 (0.1900)	24 and 32	**Light**	**A**	**0.91**	**0.78**	**0.47**	**0.34**	**0.14**	**0.10**	**0.27**	**0.22**	**0.43**	**0.39**	**0.18**	**0.14**	**1.00**	**0.38**
		Heavy	B	1.10	0.97	0.57	0.43	0.18	0.14	0.33	0.26	0.50	0.45	0.22	0.17	1.00	0.38
12 (0.2160)	24	**Light**	**B**	**1.10**	**0.97**	**0.57**	**0.43**	**0.18**	**0.14**	**0.33**	**0.26**	**0.50**	**0.45**	**0.22**	**0.17**	**1.00**	**0.38**
		Heavy	C	1.25	1.12	0.66	0.53	0.21	0.17	0.39	0.32	0.58	0.51	0.25	0.20	1.50	0.38
1/4 (0.2500)	20	**Light**	**B**	**1.10**	**0.97**	**0.57**	**0.43**	**0.18**	**0.14**	**0.33**	**0.26**	**0.50**	**0.45**	**0.22**	**0.17**	**1.50**	**0.50**
		Regular	C	1.25	1.12	0.66	0.53	0.21	0.17	0.39	0.32	0.58	0.51	0.25	0.20	1.50	0.50
		Heavy	D	1.44	1.31	0.79	0.65	0.24	0.20	0.48	0.42	0.70	0.64	0.30	0.26	1.50	0.50
5/16 (0.3125)	18	**Light**	**C**	**1.25**	**1.12**	**0.66**	**0.53**	**0.21**	**0.17**	**0.39**	**0.32**	**0.58**	**0.51**	**0.25**	**0.20**	**1.50**	**0.50**
		Regular	D	1.44	1.31	0.79	0.65	0.24	0.20	0.48	0.42	0.70	0.64	0.30	0.26	1.50	0.50
		Heavy	E	1.94	1.81	1.00	0.87	0.33	0.26	0.65	0.54	0.93	0.86	0.39	0.35	1.50	0.50
3/8 (0.3750)	16	**Light**	**D**	**1.44**	**1.31**	**0.79**	**0.65**	**0.24**	**0.20**	**0.48**	**0.42**	**0.70**	**0.64**	**0.30**	**0.26**	**2.00**	**0.75**
		Regular	E	1.94	1.81	1.00	0.87	0.33	0.26	0.65	0.54	0.93	0.86	0.39	0.35	2.00	0.75
		Heavy	F	2.76	2.62	1.44	1.31	0.40	0.34	0.90	0.80	1.19	1.13	0.55	0.51	2.00	0.75
7/16 (0.4375)	14	**Light**	**E**	**1.94**	**1.81**	**1.00**	**0.87**	**0.33**	**0.26**	**0.65**	**0.54**	**0.93**	**0.86**	**0.39**	**0.35**	**4.00**	**1.00**
		Heavy	F	2.76	2.62	1.44	1.31	0.40	0.34	0.90	0.80	1.19	1.13	0.55	0.51	4.00	1.00
1/2 (0.5000)	13	**Light**	**E**	**1.94**	**1.81**	**1.00**	**0.87**	**0.33**	**0.26**	**0.65**	**0.54**	**0.93**	**0.86**	**0.39**	**0.35**	**4.00**	**1.00**
		Heavy	F	2.76	2.62	1.44	1.31	0.40	0.34	0.90	0.80	1.19	1.13	0.55	0.51	4.00	1.00
5/8 (0.6250)	11	Heavy	F	2.76	2.62	1.44	1.31	0.40	0.34	0.80	1.19	0.19	1.13	0.55	0.51	4.00	1.25

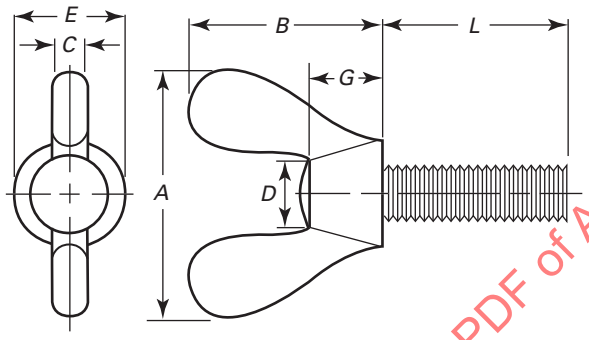
Table 6 Dimensions of Type B, Style 1 Wing Screws



Style 1

Nominal Size or Basic Screw Diameter	Threads per Inch	Wing Spread, *A*		Wing Height, *B*		Wing Thickness, *C*		Between Wings, *D*		Boss Diameter, *E*		Boss Height, *G*		Practical Screw Lengths, *L*	
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
10 (0.1900)	24	0.97	0.91	0.45	0.39	0.15	0.12	0.34	0.28	0.39	0.36	0.28	0.22	2.00	0.50
1/4 (0.2500)	20	1.16	1.09	0.56	0.50	0.17	0.14	0.41	0.34	0.47	0.44	0.34	0.28	3.00	0.50
5/16 (0.3125)	18	1.44	1.38	0.67	0.61	0.18	0.15	0.50	0.44	0.55	0.52	0.41	0.34	3.00	0.50
3/8 (0.3750)	16	1.72	1.66	0.80	0.73	0.20	0.17	0.59	0.53	0.63	0.60	0.47	0.41	4.00	0.50
7/16 (0.4375)	14	2.00	1.94	0.91	0.84	0.21	0.18	0.69	0.62	0.71	0.68	0.53	0.47	3.00	1.00
1/2 (0.5000)	13	2.31	2.22	1.06	0.94	0.23	0.20	0.78	0.69	0.79	0.76	0.62	0.50	3.00	1.00
5/8 (0.6250)	11	2.84	2.72	1.31	1.19	0.27	0.23	0.94	0.84	0.96	0.92	0.75	0.62	2.50	1.00

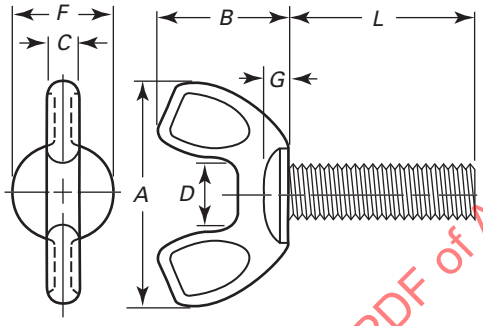
Table 7 Dimensions of Type B, Style 2 Wing Screws



Style 2

Nominal Size or Basic Screw Diameter	Threads per Inch	Wing Spread, *A*		Wing Height, *B*		Wing Thickness, *C*		Between Wings, *D*		Boss Diameter, *E*		Boss Height, *G*		Practical Screw Lengths, *L*	
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
10 (0.1900)	24	1.01	0.95	0.78	0.72	0.14	0.11	0.35	0.29	0.39	0.36	0.28	0.22	1.25	0.50
1/4 (0.2500)	20	1.22	1.16	0.94	0.88	0.16	0.13	0.41	0.35	0.47	0.44	0.34	0.28	2.00	0.50
5/16 (0.3125)	18	1.43	1.37	1.09	1.03	0.17	0.14	0.48	0.42	0.55	0.52	0.41	0.34	2.00	0.50
3/8 (0.3750)	16	1.63	1.57	1.25	1.19	0.18	0.15	0.55	0.49	0.63	0.60	0.47	0.41	2.00	0.50

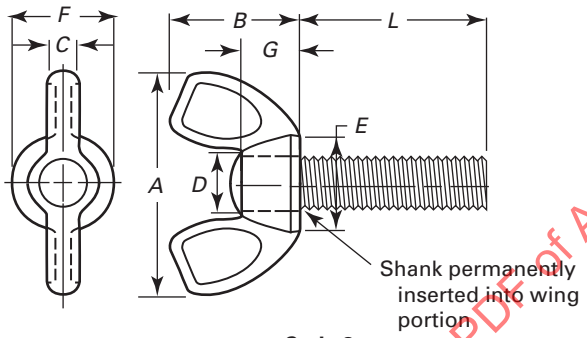
Table 8 Dimensions of Type C, Style 1 Wing Screws



Style 1

Nominal Size or Basic Screw Diameter	Threads per Inch	Wing Spread, *A*		Wing Height, *B*		Wing Thickness, *C*		Between Wings, *D*		Boss Diameter, *F*		Boss Height, *G*		Practical Screw Lengths, *L*	
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
6 (0.1380)	32	0.85	0.83	0.45	0.43	0.15	0.12	0.18	0.16	0.41	0.39	0.12	0.07	0.75	0.25
8 (0.1640)	32	0.85	0.83	0.45	0.43	0.15	0.12	0.29	0.27	0.41	0.39	0.12	0.07	1.00	0.38
10 (0.1900)	24 and 32	0.85	0.83	0.45	0.43	0.15	0.12	0.29	0.27	0.41	0.39	0.12	0.07	1.25	0.38
1/4 (0.2500)	20	1.08	1.05	0.56	0.53	0.17	0.14	0.32	0.30	0.46	0.44	0.12	0.07	1.50	0.50
5/16 (0.3125)	18	1.23	1.20	0.64	0.62	0.22	0.19	0.39	0.35	0.51	0.49	0.14	0.10	1.50	0.50
3/8 (0.3750)	16	1.45	1.42	0.74	0.72	0.24	0.21	0.46	0.42	0.63	0.62	0.15	0.12	1.50	0.50

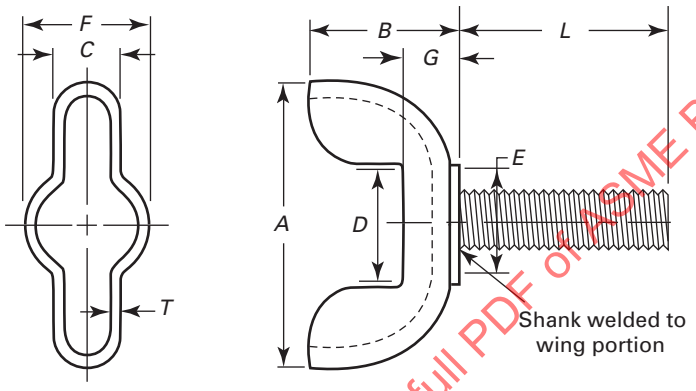
Table 9 Dimensions of Type C, Style 2 Wing Screws



Style 2

Nominal Size or Basic Screw Diameter	Threads per Inch	Wing Spread, *A*		Wing Height, *B*		Wing Thickness, *C*		Between Wings, *D*		Boss Diameter, *E*		Boss Diameter, *F*		Boss Height, *G*		Practical Screw Lengths, *L*	
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
6 (0.1380)	32	0.85	0.83	0.43	0.42	0.14	0.12	0.21	0.19	0.38	0.36	0.41	0.40	0.20	0.18	1.00	0.25
8 (0.1640)	32	0.85	0.83	0.43	0.42	0.14	0.12	0.29	0.28	0.38	0.36	0.41	0.40	0.20	0.18	1.00	0.38
10 (0.1900)	24 and 32	0.85	0.83	0.43	0.42	0.14	0.12	0.29	0.28	0.38	0.36	0.41	0.40	0.20	0.18	2.00	0.38
1/4 (0.2500)	20	1.08	1.05	0.57	0.53	0.16	0.14	0.38	0.37	0.44	0.42	0.48	0.46	0.23	0.21	2.50	0.50
5/16 (0.3125)	18	1.23	1.20	0.64	0.62	0.20	0.18	0.44	0.43	0.50	0.49	0.57	0.55	0.26	0.24	3.00	0.50
3/8 (0.3750)	16	1.45	1.42	0.74	0.72	0.23	0.21	0.44	0.43	0.62	0.60	0.69	0.67	0.29	0.27	3.00	0.75
7/16 (0.4375)	14	1.89	1.86	0.91	0.90	0.29	0.28	0.67	0.65	0.75	0.73	0.83	0.82	0.38	0.37	4.00	1.00
1/2 (0.5000)	13	1.89	1.86	0.91	0.90	0.29	0.28	0.67	0.65	0.75	0.73	0.83	0.82	0.38	0.37	4.00	1.00

Table 10 Dimensions of Type D, Wing Screws



Nominal Size or Basic Screw Diameter	Threads per Inch	Wing Spread, *A*		Wing Height, *B*		Wing Thickness, *C*		Between Wings, *D*		Boss Diameter, *E*		Boss Diameter, *F*		Height, *G*		Stock Thickness, *T*		Practical Screw Lengths, *L*	
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
6 (0.1380)	32	0.78	0.72	0.40	0.34	0.18	0.12	0.31	0.25	0.35	0.31	0.40	0.34	0.21	0.14	0.04	0.03	0.75	0.25
8 (0.1640)	32	0.78	0.72	0.40	0.34	0.18	0.12	0.31	0.25	0.35	0.31	0.40	0.34	0.21	0.14	0.04	0.03	0.75	0.38
10 (0.1900)	24	0.90	0.84	0.46	0.40	0.21	0.15	0.40	0.34	0.35	0.31	0.53	0.47	0.22	0.16	0.04	0.03	1.00	0.38
12 (0.2160)	24	1.09	1.03	0.46	0.40	0.26	0.20	0.40	0.34	0.44	0.39	0.61	0.55	0.24	0.18	0.04	0.03	1.00	0.38
1/4 (0.2500)	20	1.09	1.03	0.46	0.40	0.26	0.20	0.40	0.34	0.47	0.43	0.61	0.55	0.24	0.18	0.04	0.03	1.50	0.50
5/16 (0.3125)	18	1.31	1.25	0.62	0.56	0.29	0.23	0.52	0.46	0.57	0.53	0.68	0.62	0.29	0.23	0.07	0.05	1.50	0.50
3/8 (0.3750)	16	1.31	1.25	0.62	0.56	0.29	0.23	0.75	0.69	0.63	0.59	0.68	0.62	0.29	0.23	0.07	0.05	2.00	0.75

Table 11 Length Increments

Size	Length Range	Length Increments
#4 through 1/4	0.250–0.750	0.125
	0.750–1.500	0.250
	1.500–3.000	0.500
5/16 through 1/2	0.500–1.500	0.250
	1.500–3.000	0.500
	3.000–4.000	1.000

Table 12 Length Tolerances

Nominal Screw Length	Tolerance on Length
Through 1 in.	±0.03
Over 1 in. through 2 in.	±0.06
Over 2 in.	±0.09

Table 13 Thread Length

Screw Size	Screw Length	Thread Length
All sizes	3D or less	Full thread within 1 thread pitch
No. 5 and smaller	Over 3D through 1 1/8 in.	Full thread within 2 thread pitches
	Over 1 1/8 in.	1 in. minimum thread
No. 6 and larger	Over 3D through 2 in.	Full thread within 2 thread pitches
	Over 2 in.	1 1/2 in. minimum thread

GENERAL NOTE: The distance to first full form thread shall be measured parallel to the axis of the screw from the bearing surface of the head or bottom of the shoulder to the face of a special nonchamfered or noncounterbored 3A GO thread ring gage assembled as far as the gage will go by hand.