AN AMERICAN NATIONAL STANDARD

Forged Eyebolts

ANSI/ASME B18.15 - 1985

(REVISION OF USAS B18.15 - 1969)

REAFFIRMED 1995

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FOREWORD

(This Foreword is not part of ANSI/ASME B18.15-1985.)

Forged threaded eyebolts used in lifting applications come within the scope of ANSI Standards Committee B18 on Dimensional Standardization of Bolts, Nuts, Rivets, Screws, and Similar Fasteners, which was organized in March 1922 under the procedures of the American Engineering Standards Committee [later renamed the American National Standards Institute, Inc. (ANSI)], with the Society of Automotive Engineers and The American Society of Mechanical Engineers as joint sponsors.

Subcommittee No. 15 was appointed in March of 1960 and asked to give initial consideration to the establishment of a standard on forged eyebolts, including rated capacity. At its first meeting held on April 22, 1960, the committee decided to ask all of the leading suppliers to furnish dimensions, tolerances, and rated capacity for their standard eyebolts. These data were collected, consolidated, and studied in detail. It was soon apparent that it would be impossible to develop an ANSI standard which would agree with even a small percentage of the standard products then being produced. The first proposal, therefore, attempted to come as close as possible to an average value and still maintain an orderly progression from the smaller to the larger sizes.

ANSI Standards Committee B18 approved the proposal by letter ballot taken on September 24, 1964, and following approval by the sponsors it was submitted on July 28, 1965, to ANSI for approval. Because of a conflict with USA Standard Specification for Carbon Steel Eyebolts, G38.2-1964, final approval was withheld.

Subsequent to the withdrawal of G38.2-1964, ANSI approved the B18 proposal on February 18, 1969. This revision was approved by letter ballot of ASME Committee B18 on August 27, 1982, and was subsequently approved by ASME (the sponsor) and submitted to ANSI for designation as an American National Standard. ANSI approval of this Standard was granted on July 17, 1985.

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AN AMERICAN NATIONAL STANDARD

FORGED EYEBOLTS

1 SCOPE

This Standard is limited to dimensions and capacities for forged threaded eyebolts intended primarily for lifting applications, and covers the following types and styles.

Type 1, Plain pattern (straight shank) (see Table 1)
  Style A, Long length
  Style B, Short length
Type 2, Shoulder pattern (see Table 2)
  Style A, Long length
  Style B, Short length

Appendices A and B contain descriptive and cautionary information pertinent to forged eyebolts.

2 APPLICABLE DOCUMENTS

The most current edition of the following publications should be used.

ASTM A 489	Standard Specification for Carbon Steel Eyebolts
ASTM E 29	Standard Recommended Practice for Indicating Which Places of Figures Are to Be Considered Significant in Specified Limiting Values
ASTM F 541	Standard Specification for Alloy Steel Eyebolts
ANSI/ASME B1.1	Standard Unified Screw Threads

3 MATERIAL

The material and mechanical property requirements for general purpose carbon steel eyebolts are covered by ASTM A 489. Eyebolts requiring improved toughness or intended primarily for temperature applications to −40°F (−40°C) are covered by ASTM F 541. When other materials are required, the material shall be as agreed upon by the manufacturer and user [see para. 9(a)].

4 THREADS

Threads shall be unified coarse thread series, Class 2A (UNC 2A or UNRC 2A), as specified in ANSI/ASME B1.1. (Rolled threads to improve fatigue life of the eyebolt are desirable.) These eyebolts are intended to be used in tapped holes with Class 2B threads.

5 UNC EFFECTIVE THREAD LENGTH

Thread length is the distance from the lead thread to the last full-form thread.

6 SHANK LENGTH

Shank length includes the chamfer to the underside of the eye ring for plain pattern (straight shank) and to the faced collar for shoulder pattern eyebolts.

7 DIMENSIONS

All dimensions in this Standard are in inches unless otherwise stated. The limiting values of all dimensions and their tolerances are to be determined by the Absolute Method as outlined in ASTM E 29. Any deviation, however small, outside of the specified limiting values signifies noncomformance with this Standard.

8 DESIGNATION

Eyebolts shall be designated by the following data in the sequence shown below.

Nominal size (fractional or decimal equivalent)
Threads per inch (product name; type; style; material, including specification where necessary)

For example:

3/8–16, Plain pattern (straight shank)
Type 1, Style A (ASTM A 489), steel

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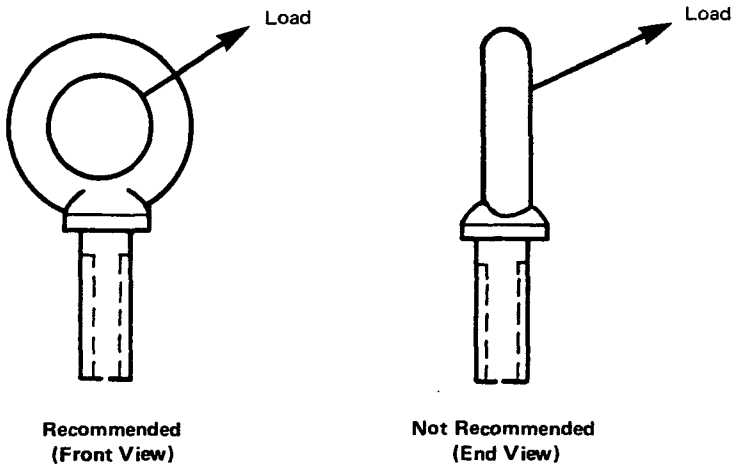


FIG. 1 LOAD APPLICATION

½–13, Shoulder pattern eyebolt
Type 2, Style B (ASTM A 489), steel

9 INSPECTION

Eyebolts shall be free from visible defects that might affect serviceability. Eyebolts should be routinely visually inspected for such defects as:

(*a*) bent or distorted eye or shank
(*b*) nicks and gouges
(*c*) obvious wear
(*d*) worn and/or distorted threads
(*e*) cracks

If any of these defects are visible, the eyebolt should be removed from service and destroyed.

10 APPLICATION

(*a*) Capacities shown in Tables 3 and 4 are for carbon steel ASTM A 489 eyebolts, at temperatures between 30°F (−1°C) and 275°F (135°C). Carbon steel is subject to failure from shock loading at temperatures below 30°F (−1°C) and loses strength at temperatures above 275°F (135°C).

(*b*) Refer to Tables 3 and 4 for reduced loads on angular lift capacities.

(*c*) Loads must always be applied to eyebolts in the plane of the eye, not at some angle to this plane. (See Fig. 1.)

(*d*) Type 1 plain eyebolts must be engaged to within one-half turn from the eye end of the threads to obtain rated capacities.

(*e*) Type 2 shoulder eyebolts should bear firmly against the mating part; otherwise the rated capacity must be reduced to those indicated for Type 1 eyebolts. A steel washer or spacer not to exceed one thread pitch may be required to put the plane of the eye in the direction of the load when the shoulder is seated.

(*f*) To attain the rated capacities in Tables 3 and 4, minimum thread shank length of engagement must be as follows:

Steel — one thread diameter

Cast iron, brass, bronze — 1.5 thread diameter

Aluminum, magnesium, zinc, plastic — two thread diameters

(*g*) Eyebolts should be visually inspected for flaws prior to applying a coating. Such coating as painting, galvanizing, or plating covers flaws and interferes with inspection. Coatings are not recommended.

(*h*) Tapped holes for plain pattern (straight shank) eyebolts are threaded for the full length of eyebolt engagement

Tapped holes for shoulder pattern eyebolts are threaded for the full length with clearance for the unthreaded portion of the eyebolt to allow shoulder seating.

(*i*) For untapped through-hole applications, shoulder pattern, long length (Type 2, Style A) eyebolts are recommended, using a steel washer and nut with the required thread engagement.

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(Table 1 begins on following page.)

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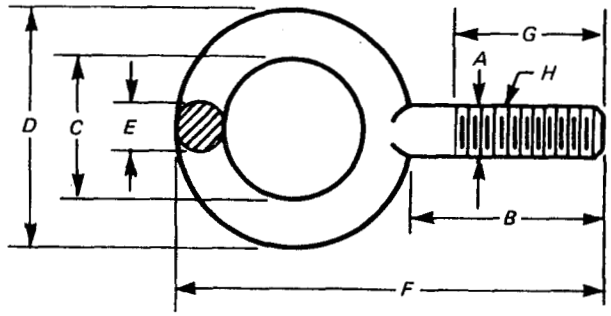


TABLE 1 TYPE 1, STYLES A AND B PLAIN PATTERN (STRAIGHT SHANK) EYEBOLT

Nominal Size		A Major Thread Diam.	B Shank Length		C	D	E	F	G Min. Length Full Thread		H
			Style A	Style B	Eye I.D.	Nominal Eye O.D.	Eye Sect. Diam.	Overall Length	Style A	Style B	Thread Size UNC 2A
1/4	0.25	0.25	1.00	1.00	0.69	1.19	0.19	2.06	0.75	0.75	1/4–20 or
[Note (1)]		0.28	1.06	1.06	0.81		0.25	2.38			.250–20
5/16	0.31	0.31	1.12	1.06	0.81	1.44	0.25	2.44	0.81	0.75	5/16–18 or
[Note (1)]		0.34	1.19	1.13	0.94		0.31	2.75			.3125–18
3/8	0.38	0.38	1.25	1.12	0.94	1.69	0.31	2.81	0.88	0.75	3/8–16 or
[Note (1)]		0.41	1.38	1.25	1.06		0.38	3.19			.375–16
7/16	0.44	0.44	1.38	1.13	1.00	1.81	0.34	3.06	1.00	0.75	7/16–14 or
		0.47	1.50	1.25	1.12		0.41	3.44			.4375–14
1/2	0.50	0.50	1.50	1.13	1.12	2.12	0.44	3.50	1.12	0.75	1/2–13 or
[Note (1)]		0.53	1.62	1.25	1.25		0.50	3.88			.500–13
9/16	0.56	0.56	1.62	1.21	1.19	2.25	0.47	3.75	1.25	0.84	9/16–12 or
		0.59	1.75	1.34	1.31		0.53	4.12			.5625–12
5/8	0.62	0.62	1.75	1.31	1.31	2.56	0.56	4.19	1.38	0.94	5/8–11 or
[Note (1)]		0.66	1.88	1.44	1.44		0.62	4.56			.625–11
3/4	0.75	0.75	2.00	1.50	1.44	2.81	0.62	4.69	1.62	1.13	3/4–10 or
[Note (1)]		0.78	2.12	1.62	1.56		0.69	5.06			.750–10
7/8	0.88	0.88	2.25	1.75	1.56	3.19	0.75	5.31	1.81	1.31	7/8–9 or
[Note (1)]		0.91	2.38	1.88	1.69		0.81	5.69			.875–9

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TABLE 1 TYPE 1, STYLES A AND B PLAIN PATTERN (STRAIGHT SHANK) EYEBOLT (CONT'D)

Nominal Size		*A* Major Thread Diam.	*B* Shank Length		*C*	*D*	*E*	*F*	*G* Min. Length Full Thread		*H*
			Style A	Style B	Eye I.D.	Nominal Eye O.D.	Eye Sect. Diam.	Overall Length	Style A	Style B	Thread Size UNC 2A
1	1.00	1.00	2.50	1.94	1.69	3.56	0.88	5.94	2.06	1.50	1–8 or
[Note (1)]		1.06	2.62	2.06	1.81		0.94	6.31			1.000–8
1⅛	1.12	1.12	2.75	2.13	1.94	4.06	1.00	6.69	2.31	1.69	1⅛–7 or
		1.19	2.88	2.26	2.06		1.06	7.06			1.125–7
1¼	1.25	1.25	3.00	2.38	2.12	4.44	1.09	7.31	2.50	1.88	1¼–7 or
[Note (1)]		1.34	3.12	2.50	2.25		1.16	7.69			1.250–7
1½	1.50	1.50	3.50	2.75	2.44	5.19	1.31	8.56	3.00	2.25	1½–6 or
[Note (1)]		1.59	3.62	2.87	2.56		1.38	8.94			1.500–6
1¾	1.75	1.75	3.75	3.18	2.75	6.00	1.50	9.50	3.19	2.62	1¾–5 or
		1.84	3.88	3.31	3.00		1.62	10.12			1.750–5
2	2.00	2.00	4.00	3.62	3.06	6.88	1.75	10.56	3.38	3.00	2–4½ or
[Note (1)]		2.09	4.25	3.87	3.44		1.88	11.44			2.000–4.50
2½	2.50	2.50	5.00	4.50	3.81	8.50	2.19	13.19	4.25	3.75	2½–4 or
[Note (1)]		2.62	5.25	4.75	4.19		2.31	14.06			2.500–4

NOTE:
(1) Preferred.

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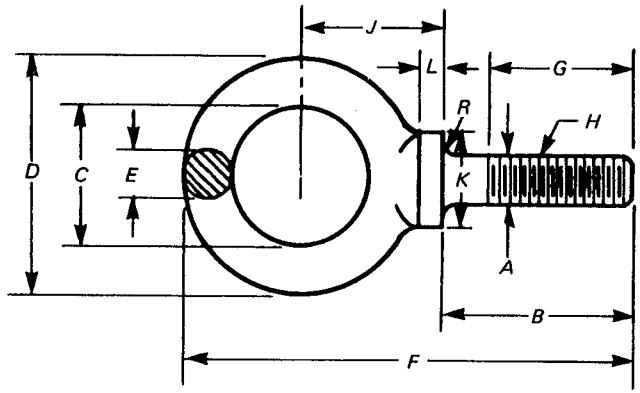


TABLE 2 TYPE 2, STYLES A AND B SHOULDER PATTERN EYEBOLT

Nominal Size		A Major Thread Diam.	B Shank Length Style A	B Shank Length Style B	C Eye I.D.	D Nominal Eye O.D.	E Eye Sect. Diam.	F Overall Length	G Min. Length Full Thread Style A	G Min. Length Full Thread Style B	H Thread Size UNC 2A	J ℄ Eye To Shoulder	K Shoulder Diam.	L Shoulder Height	R Radius Under Shoulder
1/4	0.25	0.25	1.00	1.00	0.69	1.19	0.19	2.22	0.75	0.75	1/4–20 or	0.69	0.50	0.12	0.015
[Note (1)]		0.28	1.06	1.06	0.81		0.25	2.53			.250–20	0.81	0.56	0.19	0.025
5/16	0.31	0.31	1.12	1.06	0.81	1.44	0.25	2.66	0.81	0.75	5/16–18 or	0.88	0.56	0.12	0.015
[Note (1)]		0.34	1.19	1.13	0.94		0.31	2.97			.3125–18	1.00	0.62	0.19	0.025
3/8	0.38	0.38	1.25	1.12	0.94	1.69	0.31	3.09	0.88	0.75	3/8–16 or	1.06	0.62	0.12	0.015
[Note (1)]		0.41	1.38	1.25	1.06		0.38	3.47			.375–16	1.19	0.69	0.19	0.025
7/16	0.44	0.44	1.38	1.13	1.00	1.81	0.34	3.41	1.00	0.75	7/16–14 or	1.19	0.75	0.19	0.015
		0.47	1.50	1.25	1.12		0.41	3.78			.4375–14	1.31	0.81	0.25	0.025
1/2	0.50	0.50	1.50	1.13	1.12	2.12	0.44	3.81	1.12	0.75	1/2–13 or	1.31	0.88	0.19	0.015
[Note (1)]		0.53	1.62	1.25	1.25		0.50	4.19			.500–13	1.44	0.94	0.25	0.025
9/16	0.56	0.56	1.62	1.21	1.19	2.25	0.47	4.19	1.25	0.84	9/16–12 or	1.50	0.94	0.22	0.020
		0.59	1.75	1.34	1.31		0.53	4.56			.5625–12	1.62	1.00	0.28	0.045
5/8	0.62	0.62	1.75	1.31	1.31	2.56	0.56	4.56	1.38	0.94	5/8–11 or	1.59	1.00	0.25	0.020
[Note (1)]		0.66	1.88	1.44	1.44		0.62	4.94			.625–11	1.72	1.06	0.31	0.045
3/4	0.75	0.75	2.00	1.50	1.44	2.81	0.62	5.06	1.62	1.12	3/4–10 or	1.72	1.12	0.25	0.020
[Note (1)]		0.78	2.12	1.62	1.56		0.69	5.50			.750–10	1.91	1.25	0.31	0.045
7/8	0.88	0.88	2.25	1.75	1.56	3.19	0.75	5.75	1.81	1.31	7/8–9 or	2.03	1.31	0.31	0.040
[Note (1)]		0.91	2.38	1.88	1.69		0.81	6.19			.875–9	2.22	1.44	0.38	0.065

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TABLE 2 TYPE 2, STYLES A AND B SHOULDER PATTERN EYEBOLT (CONT'D)

Nominal Size		A Major Thread Diam.	B Shank Length Style A	B Shank Length Style B	C Eye I.D.	D Nominal Eye O.D.	E Eye Sect. Diam.	F Overall Length	G Min. Length Full Thread Style A	G Min. Length Full Thread Style B	H Thread Size UNC 2A	J ℄ Eye To Shoulder	K Shoulder Diam.	L Shoulder Height	R Radius Under Shoulder
1	1.00	1.00	2.50	1.94	1.69	3.56	0.88	6.44	2.06	1.50	1–8 or	2.22	1.50	0.38	0.060
[Note (1)]		1.06	2.62	2.06	1.81		0.94	6.88			1.000–8	2.41	1.62	0.44	0.095
1⅛	1.12	1.12	2.75	2.23	1.94	4.06	1.00	7.31	2.31	1.69	1⅛–7 or	2.59	1.69	0.44	0.060
		1.19	2.88	2.26	2.06		1.06	7.75			1.125–7	2.78	1.81	0.50	0.095
1¼	1.25	1.25	3.00	2.38	2.12	4.44	1.09	8.00	2.50	1.88	1¼–7 or	2.84	1.88	0.50	0.060
[Note (1)]		1.34	3.12	2.50	2.25		1.16	8.44			1.250–7	3.03	2.00	0.56	0.095
1½	1.50	1.50	3.50	2.75	2.44	5.19	1.31	9.22	3.00	2.25	1½–6 or	3.19	2.12	0.50	0.060
[Note (1)]		1.59	3.62	2.87	2.56		1.38	9.72			1.500–6	3.44	2.25	0.62	0.095
1¾	1.75	1.75	3.75	3.18	2.75	6.00	1.50	10.50	3.19	2.62	1¾–5 or	3.88	2.50	0.50	0.060
		1.84	3.88	3.31	3.00		1.62	11.12			1.750–5	4.12	2.62	0.62	0.095
2	2.00	2.00	4.00	3.62	3.06	6.88	1.75	11.53	3.38	3.00	2–4½ or	4.25	2.88	0.62	0.060
[Note (1)]		2.09	4.12	3.79	3.44		1.88	12.22			2.000–4.50	4.50	3.00	0.75	0.095

NOTE:
(1) Preferred.

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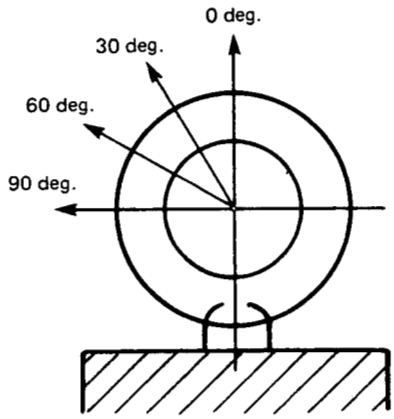


TABLE 3 TYPE 1, PLAIN PATTERN (STRAIGHT SHANK) EYEBOLT

	Rated Capacity, lb			
Nominal Size	**0 deg.**	**30 deg.**	**60 deg.**	**90 deg.**
1/4	400	70	NR	NR
5/16	680	200	NR	NR
3/8	1,000	375	200	155
7/16	1,380	500	300	235
1/2	1,840	805	470	395
9/16	2,370	1,105	635	520
5/8	2,940	1,340	805	670
3/4	4,340	2,115	1,190	1,040
7/8	6,000	2,815	1,740	1,475
1	7,880	3,670	2,390	2,110
1 1/8	9,920	4,660	3,010	2,610
1 1/4	12,600	5,896	3,752	3,350
1 1/2	18,260	8,575	5,495	4,960
1 3/4	24,700	11,524	7,500	6,700
2	32,500	15,210	9,915	8,880
2 1/2	52,000	24,500	16,800	14,000

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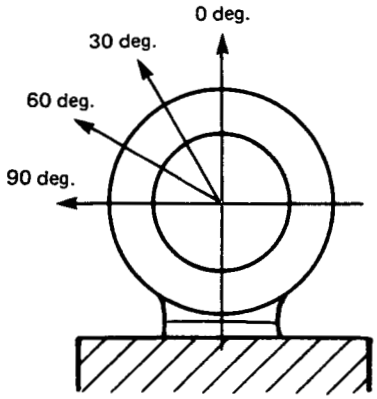


TABLE 4 TYPE 2, SHOULDER PATTERN EYEBOLT

	Rated Capacity, lb			
Nominal Size	**0 deg.**	**30 deg.**	**60 deg.**	**90 deg.**
1/4	400	75	NR	NR
5/16	680	210	NR	NR
3/8	1,000	400	220	180
7/16	1,380	530	330	260
1/2	1,840	850	520	440
9/16	2,370	1,160	700	570
5/8	2,940	1,410	890	740
3/4	4,340	2,230	1,310	1,140
7/8	6,000	2,960	1,910	1,630
1	7,880	3,850	2,630	2,320
1 1/8	9,920	4,790	3,840	3,390
1 1/4	12,600	6,200	4,125	3,690
1 1/2	18,260	9,010	6,040	5,460
1 3/4	24,700	12,100	8,250	7,370
2	32,500	15,970	10,910	9,740

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APPENDIX A
TWO METHODS OF SPECIFYING EYEBOLT CAPACITIES

(This Appendix is not part of ANSI/ASME B18.15-1985, and is included for information purposes only.)

A1 INTRODUCTION

Two methods are currently used in specifying the capacities of forged steel eyebolts. One is more commonly used by riggers and shop personnel, while the other is generally preferred by engineers and designers of lifting rigs. Care must be exercised in selecting and using the correct type of capacity for each application.

A2 RIGGER'S CAPACITY

The rigger's capacity refers to the actual load a single eyebolt can lift. The allowable load varies with the angle between the leg of the lifting rig and the shank of the eyebolt. In general, it also assumes that the load to be lifted acts along the axis through the shank. (The primary exception is where the eyebolts are mounted on the sides of the load.) Rigger's capacities are most easily used when the eyebolts are mounted on the top of a uniformly distributed load. In such cases, the total load is divided by the number of eyebolts to be used for the lift in order to determine the required capacity, taking into account the angle of the legs of the rig. Figure A1 shows such an application.

By symmetry in Fig. A1, it is apparent that each eyebolt carries one-half of the total load, i.e., 500 lb in a vertical direction. Therefore, two eyebolts must be used, each having a rigger's capacity of at least 500 lb for a sling angle of 30 deg.

A3 ENGINEERING CAPACITY

The engineering capacity, on the other hand, refers to the allowable tension in the leg of the lifting rig as it is applied to the eyebolt. This type of capacity is particularly useful when the load distribution is nonuniform, requiring nonsymmetrical slings, or when the eyebolts are not placed on the top surface of the load. In such cases, the load to be lifted does not act through the shank of the eyebolt. It is necessary to determine the tension in each leg of the rig before sizing the eyebolts. Simply dividing the total load by the number of eyebolts to be used may give erroneous and unsafe results. Figure A2 shows such an application.

In Fig. A2,

$$T_1 \sin 45 = T_2 \sin 30$$

Thus,

$$T_1 = T_2 \frac{\sin 30}{\sin 45}$$

Also,

$$T_1 \cos 45 + T_2 \cos 30 = 1000$$

Substituting for T_1 yields

$$T_2 \frac{\cos 45}{\sin 45} \sin 30 + T_2 \cos 30 = 1000$$

$$T_2 = \frac{1000}{\frac{\sin 30}{\tan 45} + \cos 30}$$

Thus,

$$T_2 = 732.05 \text{ lb}$$

Substitution yields

$$T_1 = 732.05 \frac{\sin 30}{\sin 45}$$

$$T_1 = 517.64 \text{ lb}$$

Thus, eyebolt No. 1 requires an engineering capacity of at least 518 lb for an angle of 45 deg., while eyebolt No. 2 requires an engineering capacity of at least 732 lb for an angle of 30 deg.

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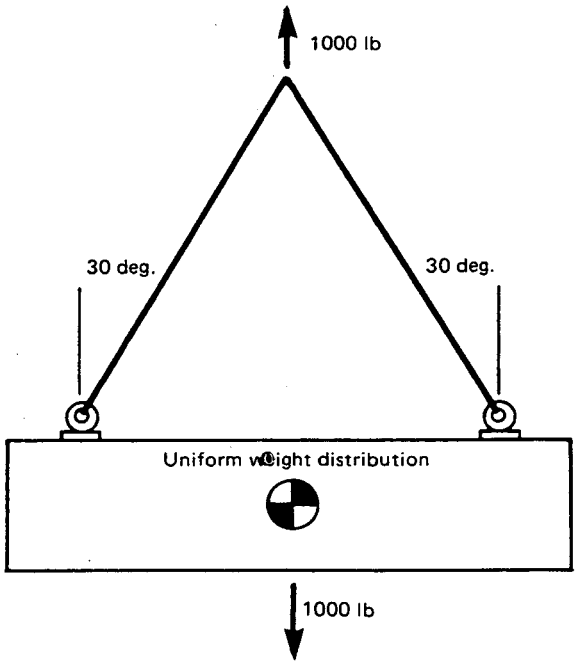


FIG. A1 UNIFORM WEIGHT DISTRIBUTION

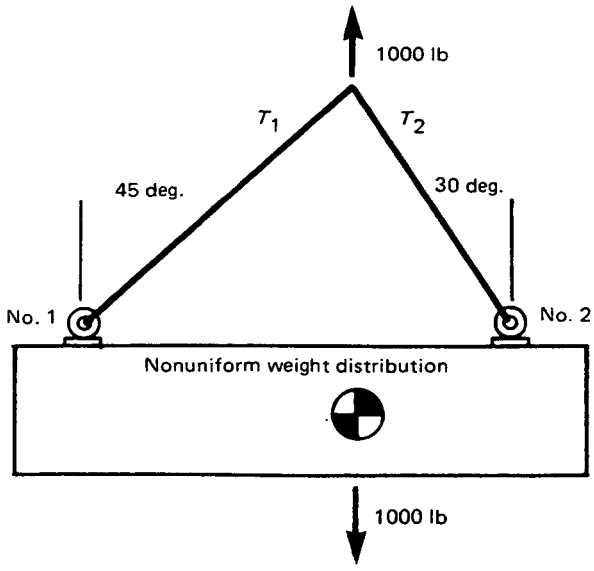


FIG. A2 NONUNIFORM WEIGHT DISTRIBUTION

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APPENDIX B
CAUTIONS AND DEFINITIONS

(This Appendix is not part of ANSI/ASME B18.15-1985, and is included for information purposes only.)

B1 ALTERING OF EYEBOLTS

Eyebolts should never be ground, notched, undercut, or welded. Such alterations will weaken the eyebolt. Eyebolts showing signs of having been so altered should immediately be destroyed.

B2 EXTREME HEAT

Eyebolts should never be subjected to heat in excess of 900°F (480°C). Important physical properties are likely to be changed by such heating, creating an unsafe bolt. Eyebolts having been subjected to such heating should be immediately destroyed.

B3 HOW TO DESTROY

Eyebolts that are being removed from service should be rendered unusable. Crushing or cutting clear across the eye is recommended.

B4 ALWAYS STAND CLEAR

Never stand, work, or crawl under the load. If the load could swing, or if the pieces could fly in the event of a drop, allow for this possibility by establishing a safe distance from the load.

B5 ELONGATION AND BENDING

Any visible bending or elongation of the eyebolt is a danger signal and indicates that it has been stressed beyond rated capacity. The bolt should be removed, destroyed, and the application investigated.

B6 DEFINITION OF RATED CAPACITY

Rated capacity is the maximum recommended load that should be exerted on the item. All rated capacities, unless otherwise noted, are for in-line pull with respect to the center line of the item.

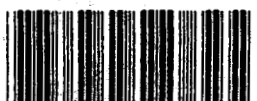
B7 DEFINITION OF SAFETY FACTOR

Safety factor is an industry term denoting theoretical reserve capacity. It is usually computed by dividing the catalog stated ultimate load by the catalog stated working load limit and generally expressed as a ratio, for example, 5 to 1.

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AMERICAN NATIONAL STANDARDS FOR BOLTS, NUTS, RIVETS, SCREWS, WASHERS, AND SIMILAR FASTENERS

Small Solid Rivets B18.1.1-1972 (R1983)
Large Rivets B18.1.2-1972 (R1983)
Metric Small Solid Rivets B18.1.3M-1983
Square and Hex Bolts and Screws B18.2.1-1981
Square and Hex Nuts B18.2.2-1972 (R1983)
Metric Hex Cap Screws B18.2.3.1M-1979
Metric Formed Hex Screws B18.2.3.2M-1979
Metric Heavy Hex Screws B18.2.3.3M-1979
Metric Hex Flange Screws B18.2.3.4M-1984
Metric Hex Bolts B18.2.3.5M-1979
Metric Heavy Hex Bolts B18.2.3.6M-1979
Metric Heavy Hex Structural Bolts B18.2.3.7M-1979
Metric Hex Lag Screws B18.2.3.8M-1981
Metric Heavy Hex Flange Screws B18.2.3.9M-1984
Metric Hex Nuts, Style 1 ..... B18.2.4.1M-1979
Metric Hex Nuts, Style 2 ..... B18.2.4.2M-1979
Metric Slotted Hex Nuts B18.2.4.3M-1979
Metric Hex Flange Nuts B18.2.4.4M-1982
Metric Hex Jam Nuts B18.2.4.5M-1979
Metric Heavy Hex Nuts B18.2.4.6M-1979
Socket Cap, Shoulder and Set Screws — Inch Series B18.3-1982
Socket Head Cap Screws (Metric Series) B18.3.1M-1982
Metric Series Hexagon Keys and Bits B18.3.2M-1979
Hexagon Socket Head Shoulder Screws: Metric Series B18.3.3M-1979
Hexagon Socket Button Head Cap Screws: Metric Series B18.3.4M-1979
Hexagon Socket Flat Countersunk Head Cap Screws (Metric Series) B18.3.5M-1983
Metric Series Hexagon Socket Set Screws B18.3.6M-1979
Round Head Bolts (Inch Series) B18.5-1978
Metric Round Head Short Square Neck Bolts B18.5.2.1M-1981
Metric Round Head Square Neck Bolts B18.5.2.2M-1982
Wood Screws B18.6.1-1981
Slotted Head Cap Screws, Square Head Set Screws, and Slotted Headless Set Screws ... B18.6.2-1972 (R1983)
Machine Screws and Machine Screw Nuts (M-4) B18.6.3-1972 (R1983)
Metric Machine Screws B18.6.7M-1985
Drive Screws (Inch Series) B18.5.4-1981
General Purpose Semi-Tubular Rivets, Full Tubular Rivets, Split Rivets and Rivet Caps B18.7-1972 (R1980)
Metric General Purpose Semi-Tubular Rivets B18.7.1M-1984
Clevis Pins and Cotter Pins B18.8.1-1972 (R1983)
Taper Pins, Dowel Pins, Straight Pins, Grooved Pins, and Spring Pins (Inch Series) B18.8.2-1978
Plow Bolts B18.9-1958 (R1977)
Track Bolts and Nuts B18.10-1982
Miniature Screws B18.11-1961 (R1983)
Glossary of Terms for Mechanical Fasteners B18.12-1962 (R1981)
Screw and Washer Assemblies — Sems B18.13-1965 (R1983)
Forged Eyebolts B18.15-1985
Mechanical and Performance Requirements for Prevailing-Torque Type Steel Metric Hex Nuts and Hex Flange Nuts B18.16.1M-1979
Torque-Tension Test Requirements for Prevailing-Torque Type Steel Metric Hex Nuts and Hex Flange Nuts B18.16.2M-1979
Dimensional Requirements for Prevailing-Torque Type Steel Metric Hex Nuts and Hex Flange Nuts B18.16.3M-1982
Wing Nuts, Thumb Screws, and Wing Screws B18.17-1968 (R1983)
Inspection and Quality Assurance for General Purpose Metric Fasteners B18.18.1M-1982
Inspection and Quality Assurance for High-Volume Machine Assembly Metric Fasteners B18.18.2M-1982
Inspection and Quality Assurance for Special Purpose Metric Fasteners B18.18.3M-1982
Inspection and Quality Assurance for Specialized Engineered Applications — Metric Fasteners B18.18.4M-1982
Lock Washers B18.21.1-1972 (R1983)
Metric Plain Washers B18.22M-1981
Plain Washers B18.22.1-1965 (R1981)
Beveled Washers B18.23.1-1967 (R1975)



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