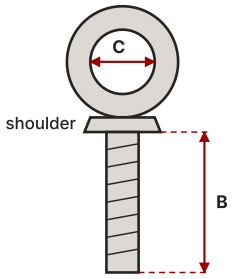
Eye Bolt Dimensions

jandesupply.com/reference-eye-bolt-dimensions.php

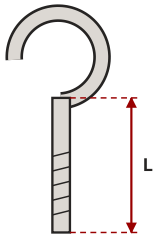
J & E Supply & FASTENER CO.

Eye bolt kinds — forged shoulder and plain pattern, turned, welded, lag eye screws and screw eyes — what each is for, which can be used for lifting, and the shank length and eye size of forged shoulder eye bolts.

An **eye bolt** is a bolt with a loop (the **eye**) in place of a head, for attaching rope, chain, cable or a hook. **Forged** eye bolts are made in one piece and are the kind made for lifting: a **shoulder pattern** bolt has a collar under the eye that seats against the work, a **plain pattern** bolt has a straight shank. A **turned** eye bolt is rod bent around into an eye, for anchoring and hanging light loads. Eye bolts are named by **thread size × shank length**.



shoulder pattern (forged)



turned eye bolt

C eye inside diameter, **B** shank length (below the shoulder), **L** length of a turned eye bolt (below the eye). Not to scale.

Eye bolt types — what each is for

TYPE	HOW IT'S MADE	WHAT IT'S FOR	LIFTING
Shoulder pattern eye bolt	Forged in one piece; a collar (shoulder) under the eye seats against the work	Lifting and rigging points on machinery and equipment, threaded into a tapped hole or through with a nut	Only to the rating the maker marks on or lists for that bolt, in line with the shank. A shoulder pattern bolt seated flat on the work also takes an angled pull, at a reduced rating.
Plain pattern eye bolt	Forged in one piece, straight shank with no shoulder (also called regular pattern)	Straight-pull lifting points, anchor points, tie-downs	Only to the maker's rating, and only for a straight, in-line pull — not for angled loads.
Turned eye bolt	Rod bent (turned) around into an eye; the end of the loop is left open or closed against the shank	Light-duty anchor points, guy wires, hanging fixtures, routing wire and cable	Not rated for lifting. Makers publish no load rating for turned or bent eye bolts.
Turned eye bolt, welded eye	A turned eye bolt with the end of the loop welded to the shank so the eye stays closed	Light-duty anchor points where the eye must stay closed	Not rated for lifting. Makers publish no load rating for turned or bent eye bolts.
Lag eye screw / screw eye	Eye on a pointed wood-screw (lag) thread, driven into wood or a lag anchor; no nut	Hanging and anchoring light loads in wood	—

Lifting: as the makers of these bolts state it. A dash: our sources don't say — ask the maker, or give us a call.

Forged shoulder eye bolts — nominal sizes (inches)

THREAD	SHANK LENGTH B	EYE ID C
1/4″	1″	3/4″
5/16″	1-1/8″	7/8″
3/8″	1-1/4″	1″
7/16″	1-3/8″	—
1/2″	1-1/2″	1-3/16″
9/16″	1-5/8″	—
5/8″	1-3/4″	1-3/8″
3/4″	2″	1-1/2″
7/8″	2-1/4″	—
1″	2-1/2″	—
1-1/8″	2-3/4″	2″
1-1/4″	3″	—
1-1/2″	3-1/2″	—

Nominal, as two makers list their forged shoulder eye bolts (1/4″ to 1-1/2″), coarse thread. A dash: the two makers differ — give us a call. Eye outside diameter differs from maker to maker (they agree on one size only) and isn't on this chart. Other shank lengths are sold.

Scan for this page online — plus free guides, charts & calculators at **jandesupply.com**
J & E Supply & Fastener Co. · Oklahoma City **405-670-1234** · Duncan **580-255-2582**

Lifting with an eye bolt

A working load limit belongs to the maker of the bolt. Published ratings for the same size differ from maker to maker and from the published ASME B18.15 table, so this chart prints none — use the rating the maker marks on the bolt or lists for it, and nothing higher.

Ratings are for a straight, in-line pull. Any angle away from the line of the shank reduces what the bolt can carry.

Load in the plane of the eye, never across it — a sideways pull bends the eye.

A shoulder eye bolt must sit flat and tight on the work to carry its rating; if the shoulder doesn't seat, the rating doesn't apply.

Plain (regular) pattern eye bolts are for in-line pulls only — makers don't recommend them for angled loads.

For an angled lift, use a swivel hoist ring rather than an eye bolt.

Turned and bent eye bolts are not rated for lifting. They are for anchoring, guying and hanging light, static loads.

Good to know

Order an eye bolt by thread × shank length — a 1/2-13 × 2″ eye bolt has a 1/2″-13 thread and a 2″ shank, measured below the eye, or below the shoulder on a shoulder pattern bolt. Lag eye screws and screw eyes are named by their diameter × length.

Inspect before every lift. A bent shank, an opened or worn eye, or damaged threads take an eye bolt out of service — don't straighten it, replace it.

Quick answers

Can I lift with a turned eye bolt?

No. Makers publish no load rating for turned (bent) eye bolts and don't recommend them for lifting. Use a forged eye bolt with the maker's rating on it.

What is the difference between a shoulder eye bolt and a plain eye bolt?

A shoulder pattern eye bolt has a collar under the eye that seats against the work, so a reduced-rating angled pull is allowed. A plain (regular) pattern eye bolt has a straight shank and is for in-line pulls only.

What is the weight rating of an eye bolt?

It depends on the maker: published working load limits for the same size differ between makers and from the published ASME B18.15 table. Use the rating marked on the bolt or listed by its maker, for a straight pull — never a number from a general chart.

How is an eye bolt measured?

By thread size and shank length: a 1/2-13 × 2″ eye bolt has a 1/2″-13 thread and a 2″ shank, measured below the eye (below the shoulder on a shoulder pattern bolt).

How long is the shank of a 1/2 inch shoulder eye bolt?

A forged 1/2-13 shoulder eye bolt is listed with a **1-1/2″** shank and a **1-3/16″** eye inside diameter by the two makers on our chart. Other shank lengths are sold — the part is named thread × shank length.

Reference values drawn from the governing standards. For critical applications, confirm against the standard and the manufacturer's published data. Technical information disclaimer →