# Pin Dimensions

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J & E Supply & FASTENER CO.

**Head size, prong extension, cross-hole and drill sizes for cotter pins and clevis pins (ASME B18.8.1), hardened ground dowel pins and slotted spring (roll) pins (ASME B18.8.2), in inches.**

Pins are sized by their nominal diameter. A **cotter pin** is a folded wire with an eye: it goes through a drilled bolt, clevis pin or castle nut and its prongs are bent back to lock it. A **clevis pin** is a headed pin for a clevis, yoke or linkage, held in by a cotter pin through the cross hole near its end. A **dowel pin** (hardened ground) locates two parts exactly, pressed into a reamed hole. A **slotted spring pin** (roll pin) is a split tube made bigger than its hole: driven into a drilled hole, it squeezes and holds by spring force.



Cotter · C head, D prong | Clevis · head B, hole E | Dowel · dia A | Spring (roll) pin

The letters match the table columns.

## Cotter pins — ASME B18.8.1 (inches)

| SIZE | HEAD DIA C MIN | PRONG EXTENSION D MIN |
|---|---|---|
| 1/32″ | .06 | .01 |
| 3/64″ | .09 | .02 |
| 1/16″ | .12 | .03 |
| 5/64″ | .16 | .04 |
| 3/32″ | .19 | .04 |
| 7/64″ | .22 | .05 |
| 1/8″ | .25 | .06 |
| 9/64″ | .28 | .06 |
| 5/32″ | .31 | .07 |
| 3/16″ | .38 | .09 |
| 7/32″ | .44 | .10 |
| 1/4″ | .50 | .11 |
| 5/16″ | .62 | .14 |
| 3/8″ | .75 | .16 |
| 7/16″ | .88 | .20 |
| 1/2″ | 1.00 | .23 |
| 5/8″ | — | — |
| 3/4″ | 1.50 | .36 |

Wire width and the hole size aren't on our chart — our two sources don't agree on them; give us a call. A dash: our sources differ.

## Clevis pins — ASME B18.8.1 (inches)

| SIZE | SHANK DIA A MAX | HEAD DIA B MAX | HEAD HEIGHT C MAX | CHAMFER D | CROSS HOLE E MAX | POINT DIA F MAX | LENGTH G / HEAD TO HOLE H MAX | COTTER PIN |
|---|---|---|---|---|---|---|---|---|
| 3/16″ | .186 | .32 | .07 | .02 | .088 | .15 | .58 / .504 | 1/16″ |
| 1/4″ | .248 | .38 | .10 | .03 | .088 | .21 | .77 / .692 | 1/16″ |
| 5/16″ | .311 | .44 | .10 | .03 | .119 | .26 | .94 / .832 | 3/32″ |
| 3/8″ | .373 | .51 | .13 | .03 | .119 | .33 | 1.06 / .958 | 3/32″ |
| 7/16″ | .436 | .57 | .16 | .04 | .119 | .39 | 1.19 / 1.082 | 3/32″ |
| 1/2″ | .496 | .63 | .16 | .04 | .151 | .44 | 1.36 / 1.223 | 1/8″ |
| 5/8″ | .621 | .82 | .21 | .06 | .151 | .56 | 1.61 / 1.473 | 1/8″ |
| 3/4″ | .746 | .94 | .26 | .07 | .182 | .68 | 1.91 / 1.739 | 5/32″ |
| 7/8″ | .871 | 1.04 | .32 | .09 | .182 | .80 | 2.16 / 1.989 | 5/32″ |
| 1″ | .996 | 1.19 | .35 | .10 | .182 | .93 | 2.41 / 2.239 | 5/32″ |

Maximum sizes. G and H are for the standard's listed length; a clevis pin of another length has its hole placed for that length.

## Dowel pins, hardened ground — ASME B18.8.2 (inches)

| SIZE | DIA A MAX / MIN (STANDARD SERIES) | POINT DIA B MAX / MIN | CROWN HEIGHT C MAX |
|---|---|---|---|
| 1/16″ | — / — | — / — | — |
| 5/64″ | — / — | — / — | — |

| SIZE | DIA A MAX / MIN (STANDARD SERIES) | POINT DIA B MAX / MIN | CROWN HEIGHT C MAX |
|---|---|---|---|
| 3/32″ | — / — | — / — | — |
| 1/8″ | **.1253** / .1251 | .120 / .110 | .041 |
| 5/32″ | — / — | — / — | — |
| 3/16″ | **.1878** / .1876 | .180 / .170 | .062 |
| 1/4″ | **.2503** / .2501 | .240 / .230 | .083 |
| 5/16″ | **.3128** / .3126 | .302 / .290 | .104 |
| 3/8″ | **.3753** / .3751 | .365 / .350 | .125 |
| 7/16″ | — / — | .424 / .409 | .146 |
| 1/2″ | **.5003** / .5001 | .486 / .471 | .167 |
| 5/8″ | **.6253** / .6251 | .611 / .595 | .208 |
| 3/4″ | **.7503** / .7501 | .735 / .715 | .250 |
| 7/8″ | **.8753** / .8751 | .860 / .840 | .293 |
| 1″ | **1.0003** / 1.0001 | .980 / .960 | .333 |

Standard series. The oversize series, hole sizes and shear loads aren't listed — we have only one independent source for them. A dash: our sources differ, or only one lists it.

### Slotted spring pins — ASME B18.8.2 (inches)

| SIZE | DRILL HOLE MAX / MIN | PIN DIA A MAX / MIN | CHAMFER DIA B MAX | CHAMFER LENGTH C MAX / MIN | WALL F | DOUBLE SHEAR MIN, LB (CARBON / 420 SS) | DOUBLE SHEAR MIN, LB (18-8 SS) |
|---|---|---|---|---|---|---|---|
| 1/16″ | **.065** / .062 | **.069** / .066 | .059 | .028 / .007 | .012 | 430 | 250 |
| 5/64″ | **.081** / .078 | **.086** / .083 | .075 | .032 / .008 | .018 | 800 | 460 |
| 3/32″ | **.097** / .094 | **.103** / .099 | .091 | .038 / .008 | .022 | 1,150 | 670 |
| 1/8″ | **.129** / .125 | **.135** / .131 | .122 | .044 / .008 | .028 | 1,875 | 1,090 |
| 9/64″ | — / — | — / — | — | — / — | — | — | — |
| 5/32″ | **.160** / .156 | **.167** / .162 | .151 | .048 / .010 | .032 | 2,750 | 1,600 |
| 3/16″ | **.192** / .187 | **.199** / .194 | .182 | .055 / .011 | .040 | 4,150 | 2,425 |
| 7/32″ | — / — | — / — | — | — / — | — | — | — |
| 1/4″ | **.256** / .250 | **.264** / .258 | .245 | .065 / .012 | .048 | 7,050 | 4,100 |
| 5/16″ | **.318** / .312 | **.330** / .321 | .306 | .080 / .014 | .062 | 10,800 | 6,300 |
| 3/8″ | **.382** / .375 | **.395** / .385 | .368 | .095 / .016 | .077 | 16,300 | 9,500 |
| 7/16″ | — / — | — / — | — | — / — | — | — | — |
| 1/2″ | **.510** / .500 | **.524** / .513 | .485 | .110 / .025 | .094 | 27,100 | 15,800 |
| 5/8″ | — / — | — / — | — | — / — | — | — | — |
| 3/4″ | — / — | — / — | — | — / — | — | — | — |

The pin is made bigger than its hole and squeezes in. A dash: our two sources don't both list this size — give us a call.

**Good to know**
Match a clevis pin to its cotter pin with the last column of the clevis table. Shear loads are minimums for the pin in double shear (cut in two places).

## Quick answers

**What size cotter pin goes in a 1/2 inch clevis pin?**
A **1/8″** cotter pin (ASME B18.8.1).

**What cotter pin fits each clevis pin size?**
3/16″ clevis – 1/16″ cotter, 1/4″ clevis – 1/16″ cotter, 5/16″ clevis – 3/32″ cotter, 3/8″ clevis – 3/32″ cotter, 7/16″ clevis – 3/32″ cotter, 1/2″ clevis – 1/8″ cotter, 5/8″ clevis – 1/8″ cotter, 3/4″ clevis – 5/32″ cotter, 7/8″ clevis – 5/32″ cotter, 1″ clevis – 5/32″ cotter.

**What size hole do I drill for a 1/4 inch roll pin?**
.256″ max, .250″ min (slotted spring pin, ASME B18.8.2).

**How big is the head on a 1/8 inch cotter pin?**
At least .25″ across (head dia C min).

**How big is the head on a 3/8 inch clevis pin?**
.51″ across, maximum.

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