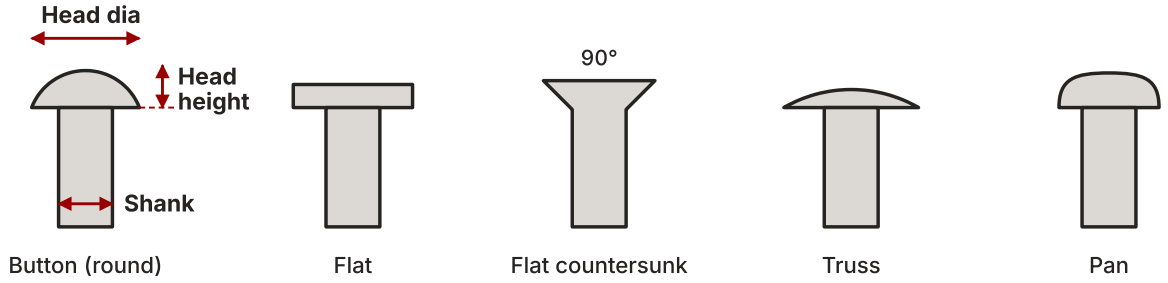
Solid Rivet Dimensions

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Inch solid rivets by diameter: shank and head sizes for button (round), flat, countersunk, truss and pan heads, the hole to drill, and the aluminum rivet alloy marks.

A **solid rivet** is a plain pin with a head. It goes through a drilled hole and the tail is hammered or squeezed into a second (shop) head, so you need to reach both sides of the joint. The head you see is the **manufactured head**: button (round) and truss heads sit on top, a flat head is low and flat, and a countersunk head sits flush in a countersunk hole. Rivets are sized by shank diameter and length.



The labels match the table columns. Not to scale.

Button (round) head solid rivets — ASME B18.1.1

SIZE	SHANK DIA	HEAD DIA	HEAD HEIGHT
1/16″	.064 / .059	.122 / .102	.052 / .042
3/32″	.096 / .090	.182 / .162	.077 / .065
1/8″	.127 / .121	.235 / .215	.100 / .088
5/32″	.158 / .152	.290 / .268	.124 / .110
3/16″	.191 / .182	.348 / .322	.147 / .133
7/32″	.222 / .213	.405 / .379	.172 / .158
1/4″	.253 / .244	.460 / .430	.196 / .180
9/32″	.285 / .273	.518 / .484	.220 / .202
5/16″	.316 / .304	.572 / .538	.243 / .225
11/32″	.348 / .336	.630 / .592	.267 / .247
3/8″	.380 / —	.684 / .646	.291 / .271
13/32″	.411 / .396	.743 / .699	.316 / .294
7/16″	.443 / .428	.798 / .754	.339 / .317

Inches, max / min. ASME B18.1.1 as printed in Machinery's Handbook (31st ed.) and the Valley Fastener rivet charts; printed where both agree. A dash: the two differ for that value — give us a call. Valley Fastener titles this chart "Button or Round Head": a round head rivet is a button head.

Flat head solid rivets — ASME B18.1.1

SIZE	SHANK DIA	HEAD DIA	HEAD HEIGHT
1/16″	.064 / .059	.140 / .120	.027 / .017
3/32″	.096 / .090	.200 / —	.038 / .026
1/8″	.127 / .121	.260 / —	.048 / .036
5/32″	.158 / .152	.323 / —	.059 / .045
3/16″	.191 / .182	.387 / —	.069 / .055
7/32″	.222 / .213	.453 / .427	.080 / .065
1/4″	.253 / .244	.515 / .485	.091 / .075
9/32″	.285 / .273	.579 / .545	.103 / .085
5/16″	.316 / .304	— / .607	.113 / .095
11/32″	.348 / .336	.705 / .667	.124 / .104
3/8″	.380 / —	.769 / .731	.135 / .115
13/32″	.411 / .396	.834 / .790	.146 / .124
7/16″	.443 / .428	.896 / .852	.157 / .135

Inches, max / min. ASME B18.1.1 as printed in Machinery's Handbook (31st ed.) and the Valley Fastener rivet charts; printed where both agree. A dash: the two differ for that value — give us a call.

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Flat countersunk head solid rivets, 90° — ASME B18.1.1

SIZE	SHANK DIA	HEAD DIA	HEAD HEIGHT (REF)
1/16″	.064 / .059	.118 / .110	.027
3/32″	.096 / .090	.176 / .163	.040
1/8″	.127 / .121	.235 / .217	.053
5/32″	.158 / .152	.293 / .272	.066
3/16″	.191 / .182	.351 / .326	.079
7/32″	.222 / .213	.413 / .384	.094
1/4″	.253 / .244	.469 / .437	.106
9/32″	.285 / .273	.528 / .491	.119
5/16″	.316 / .304	.588 / .547	.133
11/32″	.348 / .336	.646 / .602	.146
3/8″	.380 / —	.704 / .656	.159
13/32″	.411 / .396	.763 / .710	.172
7/16″	.443 / .428	.823 / .765	.186

Inches, max / min. ASME B18.1.1 as printed in Machinery's Handbook (31st ed.) and the Valley Fastener rivet charts; printed where both agree. A dash: the two differ for that value — give us a call. Head height is for reference: the head diameter and the 90° angle control it.

Truss head solid rivets — ASME B18.1.1

SIZE	HEAD DIA	HEAD HEIGHT
3/32″	.226 / .206	.038 / .026
1/8″	.297 / .277	.048 / .036
5/32″	.368 / .348	.059 / .045
3/16″	.442 / .422	.069 / .055
7/32″	.515 / .495	.080 / .066
1/4″	.590 / .560	.091 / .075
9/32″	.661 / .631	.103 / .085
5/16″	.732 / .702	.113 / .095
11/32″	.806 / .776	.124 / .104
3/8″	.878 / .848	.135 / .115
13/32″	.949 / .919	.145 / .123
7/16″	1.020 / .990	.157 / .135

Inches, max / min. ASME B18.1.1 as printed in Machinery's Handbook (31st ed.) and the Valley Fastener rivet charts; printed where both agree. A dash: the two differ for that value — give us a call.

Pan head solid rivets — ASME B18.1.1

SIZE	SHANK DIA	HEAD DIA	HEAD HEIGHT
1/16″	.064 / .059	.118 / .098	.040 / .030
3/32″	.096 / .090	.173 / .153	.060 / .048
1/8″	.127 / .121	.225 / .205	.078 / .066
5/32″	.158 / .152	.279 / .257	.096 / .082
3/16″	.191 / .182	.334 / .308	.114 / .100
7/32″	.222 / .213	.391 / .365	.133 / .119
1/4″	.253 / .244	.444 / .414	.151 / .135
9/32″	.285 / .273	.499 / .465	.170 / .152
5/16″	.316 / .304	.552 / .518	.187 / .169
11/32″	.348 / .336	.608 / .570	.206 / .186
3/8″	.380 / —	.663 / .625	.225 / .205
13/32″	.411 / .396	.719 / .675	.243 / .221
7/16″	.443 / .428	.772 / .728	.261 / .239

Inches, max / min. ASME B18.1.1 as printed in Machinery's Handbook (31st ed.) and the Valley Fastener rivet charts; printed where both agree. A dash: the two differ for that value — give us a call.

Hole drill for solid rivets — aircraft practice

RIVET DIA	DRILL	HOLE DIA

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RIVET DIA	DRILL	HOLE DIA
1/16″	—	—
3/32″	—	—
1/8″	#30	.1285
5/32″	#21	.159
3/16″	#11	.191
1/4″	F	.257
5/16″	—	—
3/8″	—	—

The final drill for the rivet hole, from FAA-H-8083-31 (Aviation Maintenance Technician Handbook — Airframe) and MIL-HDBK-5J; printed where both agree. A dash: they differ or only one lists it. Where a drawing or the maker gives a hole size, use that.

Aluminum rivet alloy codes and head marks

CODE	ALLOY	HEAD MARK	SHEAR STRENGTH (DRIVEN)
A	—	none	10 ksi
AD	2117	dimple	30 ksi
D	2017	raised dot	—
DD	2024	two raised dashes	41 ksi
B	5056	raised cross	—

The letter in an AN / MS aircraft rivet number (MS20470**AD**4-4) and the mark on its head, from FAA AC 43.13-1B, FAA-H-8083-31 and MIL-HDBK-5J. Shear strength is the alloy's rated value as driven, printed only where every source that gives one agrees — not a test of any lot. A dash: our sources differ.

Good to know

Measure length from under the head on button, flat, truss and pan heads, and overall on a countersunk head. Pick the length for the stack plus enough tail to form the shop head — the drawing or the rivet maker gives that allowance.

Edge distance: keep the hole's center at least 2 times the rivet diameter from the edge of the sheet for protruding-head rivets (FAA AC 43.13-1B, FAA-H-8083-31). Closer and the sheet can tear out.

Not on this chart: universal, brazier and mushroom heads, tinner's rivets (sized by weight per 1,000), rivets 1/2″ and up (ASME B18.1.2) and metric rivets — only one of our sources lists them. Their TECH DATA sheets give the part's listed size and material.

Quick answers

How big is the head on a 3/16 round head rivet?

A 3/16″ button (round) head solid rivet has a head **.322–.348″** across and **.133–.147″** high (ASME B18.1.1 min–max).

What size drill do I use for a solid rivet?

For aircraft-style solid rivets: 1/8″ — **#30** (.1285″), 5/32″ — **#21** (.159″), 3/16″ — **#11** (.191″), 1/4″ — **F** (.257″). The hole is a few thousandths over the rivet so it slides in and swells to fill the hole when driven.

What does a dimple on a rivet head mean?

A dimple marks an **AD** rivet: 2117 aluminum alloy, the common general-repair aircraft rivet.

What is the difference between a truss head and a round head rivet?

A truss head is wider and lower: at 1/4″ a truss head is up to **.590″** across and .091″ high, a button (round) head .460″ across and .196″ high.

How far from the edge should a rivet go?

At least **2 times the rivet diameter** from the hole's center to the edge of the sheet for protruding-head rivets (FAA AC 43.13-1B and FAA-H-8083-31).

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