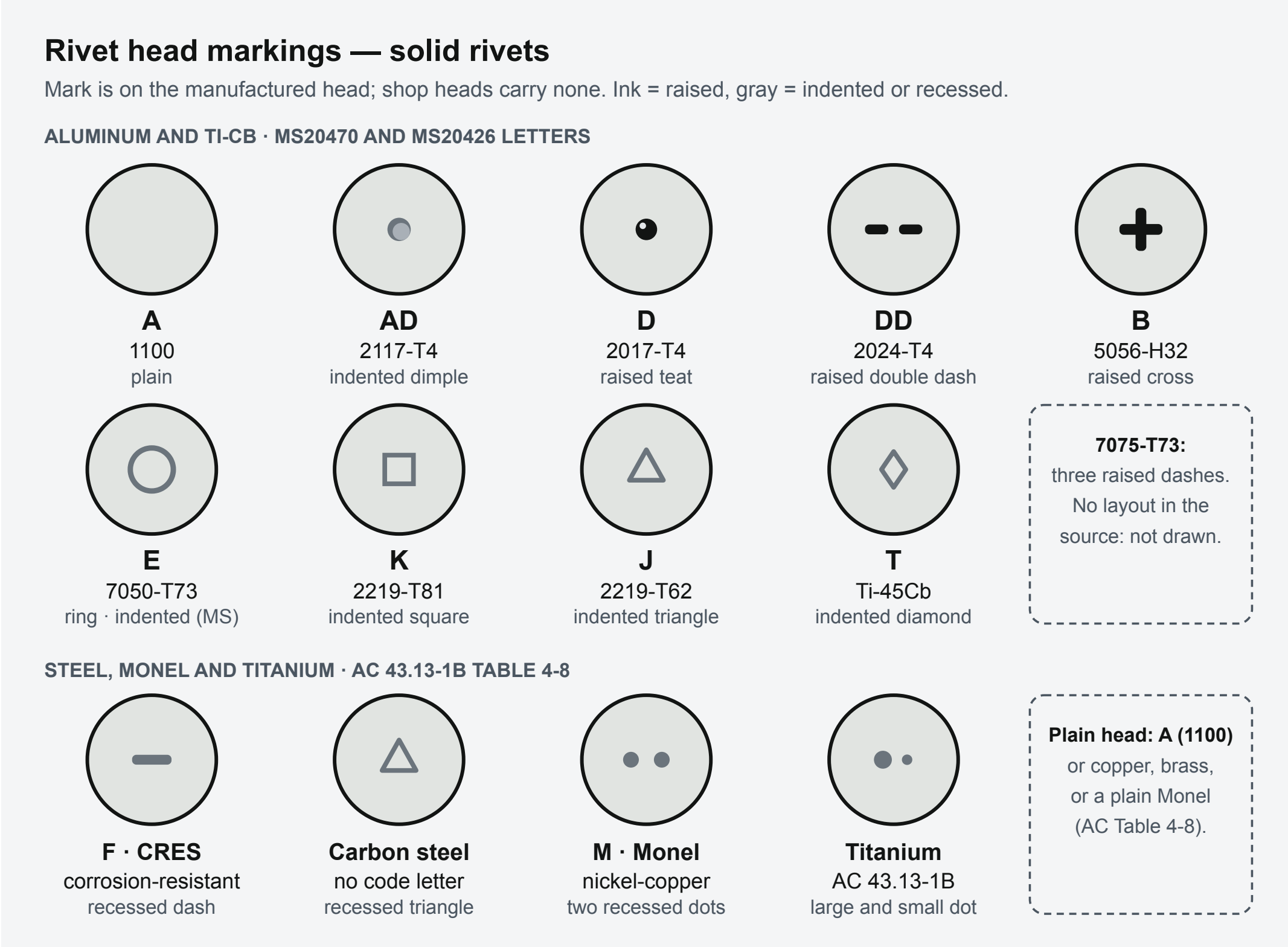
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Rivet Identification Chart

A plain head is A (1100), an indented dimple AD (2117), a raised teat D (2017), a raised double dash DD (2024), a raised cross B (5056).



The marks as they appear on the manufactured head.

Head markings — the identification table

Head marking	Code	Alloy	Condition	Storage	Typical use
`Plain — no mark`	A	1100-F	F	Indefinite	Non-structural only. Fairings, trim, placards, nameplates.
`Indented dimple`	AD	2117-T4	T4	Indefinite	The field rivet. The overwhelming majority of general aviation structural riveting.
`Raised teat (single raised dot)`	D	2017-T4	T4	Icebox **above 3/16"** — see below	Higher strength than AD, where the drawing calls for it.
`Raised double dash`	DD	2024-T4	T4	Icebox, all sizes — see below	Highest strength of the common aluminum rivets, and the hardest to drive.
`Raised cross`	B	5056-H32	H32	Indefinite	Magnesium structures. Chosen for galvanic compatibility, not for strength.
`Ring`	E	7050-T73	T73	Indefinite: driven as received, in the T condition	Replaces DD without the icebox. Head mark: a recessed ring, outside diameter at most 75 % of the shank and .010 in deep at most, required on 7050 rivets made after 2 July 1990 (MS20470H sheet 1, requirement 6). Older references (FAA-H-8083-31B Fig. 4-77, TO 1-1A-1 Table 5-2) show a raised ring. Shear 43 ksi driven (7050-T731, MIL-HDBK-5J Table 8.1.2(b), as Fig. 4-77); 41 ksi is the undriven 7050-T73 minimum and the figure in T.O. 1-1A-1 Table 5-2.
`Three raised dashes`	—	7075-T73	T73	Indefinite	High-strength aluminum; AC Table 4-8 gives it no AN code letter.
`Indented square`	K	2219-T81	T81	Not stated	Inactive for new design (MS20470H).
`Indented triangle`	J	2219-T62	T62	Not stated	Same triangle as carbon steel: on an aluminum MS head it means J.
`Indented diamond`	T	Ti-45Cb (titanium-columbium)	—	Not stated	Titanium rivets in composites where strength, weight and hole tolerance are critical (TO 1-1A-1).
`Recessed dash`	F (AN code)	Corrosion-resistant steel (CRES)	Annealed	Indefinite	CRES parts: firewalls, exhaust brackets (AC 43.13-1B par. 7-2f). MS20613 universal head.
`Recessed triangle`	—	Carbon steel	Annealed	Indefinite	Steel parts; no galvanized rivets where heat is high (AC 43.13-1B par. 7-2e). MS20613 universal head.
`Recessed double dots`	M (part number)	Monel, nickel-copper	Annealed, driven as received	Indefinite	Nickel alloys and high-nickel steels; interchangeable with CRES (AC par. 7-2g). MS20615, MS20427M.
`Recessed large and small dot`	—	Titanium (AC 43.13-1B)	—	Indefinite	Heat and corrosion resistance (TO 1-1A-1). Not the Ti-Cb diamond of the MS standards.
`Plain — no mark (MS20427 note b)`	C	Copper	Annealed	Indefinite	Copper rivets in AN420, AN435 and MS20427. The drawing or SRM sets the use.
`Plain (AC Table 4-8)`	—	Brass	—	—	No code letter in the standards read. MS20615 covers brass in its title; the drawing sets the use.

Educational reference only, not approved data. Always consult the applicable SRM, AMM, or AC 43.13-1B and your certifying authority.

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Alloy codes in the part number — and where one letter means two things

Code	Alloy	Used in
A	1100-F aluminum	MS20470, MS20426
AD	2117-T4 aluminum	MS20470, MS20426, NAS1097, NAS1241, NAS1242, MS14218
B	5056-H32 aluminum	MS20470, MS20426
D	2017-T4 aluminum (inactive for new design)	MS20470, MS20426, NAS1097
DD	2024-T4 aluminum (inactive for new design)	MS20470, MS20426, MS14218
E · KE	7050-T73 aluminum; KE is the letter NAS documents use	MS20470, MS20426, MS14218 (E); NAS1097 (E, KE)
K	2219-T81 aluminum (inactive for new design)	MS20470, MS20426
J	2219-T62 aluminum	MS20470, MS20426
T · U	Titanium-columbium 45Cb	T: MS20470, MS20426, MS14218; U: NAS1097
C	Copper (annealed)	AN420 (-C), AN435 (C), MS20427 (C before the diameter)
C (MS20613)	Corrosion-resistant steel, 300 series, passivated	MS20613 — not copper
F	Corrosion-resistant steel, 300 series	AN435 (F), MS20427 (F)
M	Monel (nickel-copper), QQ-N-281	AN435, MS20427, MS20615, NAS1200
P	Carbon steel, cadmium plated	MS20613 (P)
X · none	Carbon steel: X black oxide (MS20427), no letter (AN435, plain dash)	MS20427, AN435

Solid-rivet standards — head, alloys, use

Standard	Head	Alloys (codes)	Where it is used
MS20470 · AN470	Universal	A, AD, B, D, DD, E, K, J, T	General-purpose protruding head; replaced the round, brazier and flat heads in most new work.
MS20426 · AN426	100° countersunk	A, AD, B, D, DD, E, K, J, T	Flush surfaces where aerodynamic smoothness matters.
NAS1097	100° flush shear, reduced head	AD, D, E · KE, U	Sheet too thin for the full MS20426 head, about two-thirds its height. A shear head is never shaved.
MS14218 · MS14219	120° flush: shear head, tension head	E, T, AD, DD (MS14218)	Flatter heads for machine-countersunk sheet; interference fit in MS14218. BRFS is also a 120° shear head.
NAS1200	100° flush shear	M (Monel)	Monel flush shear rivet.
MS20427 · AN427	100° countersunk	Carbon steel (X), F, M, C	Flush rivets in steel, CRES, Monel and copper. AN420 (90° countersunk, iron or copper) is canceled: use MS20427.
MS20613	Universal	P carbon steel, C CRES	Steel and CRES structure; no galvanized rivets on steel parts subjected to high heat (AC par. 7-2e).
MS20615	Universal	M (Monel)	Monel, nickel and high-nickel steels; the title also covers brass and copper rivets (AC par. 7-2g).
AN435	Round	Carbon steel, F, M, C	Steel, CRES, Monel and copper round-head rivets.
MS35743	Pan, small solid	Carbon steel, annealed	Small steel rivets; the standard gives no alloy code letters.
MS9403 · AN123151 to AN125700	Universal or 100° flush	Heat-resistant steel (AMS 5737, 7229, 7228), nickel base (AMS 7232), mild steel cadmium plated	High-temperature structure; the drawing sets the range.
NAS1241	100° flush shear, oversize shank	AD	Oversize repair rivet for an MS20426 hole opened up. Same head as the standard rivet. Only with approved data.
NAS1242	Universal, oversize shank	AD	Oversize repair rivet for an MS20470 hole opened up. Same head as the standard rivet. Only with approved data.
AN430 · AN455 · AN442 (MS20430 · MS20455 · MS20442)	Round · brazier · flat	—	Older designs: round for internal structure, brazier for thin-sheet skin, flat where clearance is tight. Superseded by AN470; the alloy codes are in the part number.
ASNA2049 · 2050 · 2051	Reduced 100° · protruding · 100° countersunk	DX (2017A-T4)	European-standard solid rivets with a radiused shank end.

Key points

- **A marking is not traceability.** A correctly marked rivet from an unknown source is still an unknown rivet.
- **One symbol, two alloys.** The indented triangle is carbon steel in AC 43.13-1B and J (2219-T62) on an aluminum MS head. C is copper in AN420, AN435 and MS20427 but CRES in MS20613.
- **D and DD condition cannot be told by eye.** Icebox: DD all sizes, D above 3/16 in. Take the time limit from the rivet specification.
- **Approved data governs.** The SRM or drawing sets the alloy and any oversize repair; a worn or painted head is not to be guessed.

MAIN SOURCES · US Navy Aviation Structural Mechanic training series, NAVEDTRA 14315, Table 3-1 Rivet Material Identification · FAA AC 43.13-1B CHG 1, Chapter 4 · FAA-H-8083-31 and -31B, AMT Handbook — Airframe, Chapter 4 · MS20470 Rev. H and MS20426 Rev. L · MIL-HDBK-5J, Chapter 8 · TO 1-1A-1 / NAVAIR 01-1A-1, Table 5-2 and par. 5.3.2 · The Aviation Point data · AN420, AN435, MS20427, MS20613, MS20615, MS35743, MS9403, NAS1097, NAS1200, NAS1241, NAS1242, MIL-R-47196A par. 3.4.2

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Educational reference only, not approved data. Always consult the applicable SRM, AMM, or AC 43.13-1B and your certifying authority.