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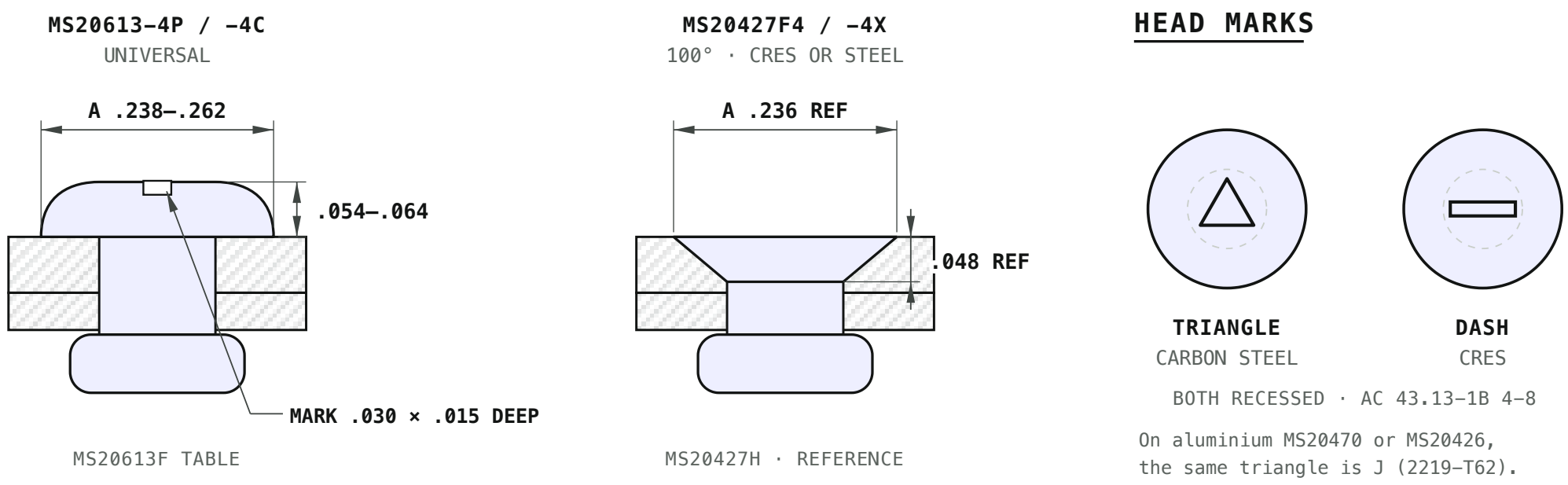
Steel and CRES Rivets: Marks, Letters, Strength and Drills

Marks · letters · shear · head sizes · drills · use

REFERENCE DRAWING — NOT APPROVED DATA · THE SRM ALWAYS GOVERNS

STEEL AND CRES RIVETS AT 1/8 IN

SECTION · PLAN OF THE MARK



READ THE LETTERS

MS20613F AND MS20427H

PART NUMBER	MATERIAL	WHAT THE LETTERS SAY
MS20613-4P5	Carbon steel	Cadmium plated · 38,000 to 48,000 psi
MS20613-4C5	CRES	Passivated · 65,000 to 85,000 psi
MS20427-4X5	Carbon steel	Black oxide · X after the diameter
MS20427-4C5	Carbon steel	Cadmium plated · C after the diameter
MS20427F4-5	CRES	F before the diameter · 65,000 to 85,000 psi
MS20427C4-5	Copper	C before the diameter means copper

Annealed after heading (both standards). MS20427H: the rivet drives cold to a full head free from cracks.

AC 43.13-1B Table 4-8 gives 35,000 psi for carbon steel and 65,000 psi for CRES; the standards give the ranges above.

NOTES

1. Dimensions in inches. Do not scale: the SRM sets the values.
2. For reference. The applicable manual always governs.
3. Based on MS20613F, MS20427H, AC 43.13-1B Table 4-8.

REVISIONS

REV	DESCRIPTION	YEAR
A	First issue	2026

The Aviation Point.	Structural repair reference		
TITLE: Steel and CRES rivets			
DRAWING NO.: TAP-DWG-F03	REV: A · 2026	SCALE: NTS	SHEET: 1 OF 1
APPLIES TO: Solid rivets, steel and CRES			
DO NOT SCALE DRAWING			

MS20613 and MS20427 heads at 1/8 in in section, with the recessed triangle (carbon steel) and dash (CRES) of AC 43.13-1B Table 4-8 and the letters of MS20613F and MS20427H.

Reading the letters

Part number	Material	Finish	Diameter × length
MS20613-2P2	Carbon steel C1005 to C1015	Cadmium plated	1/16 × 1/8 in (the standard's example)
MS20613-4C5	CRES, 300 series	Passivated	1/8 × 5/16 in
MS20427-2X2	Carbon steel C1010 to C1015	Black oxide	1/16 × 1/8 in
MS20427-2C2	Carbon steel	Cadmium plated	1/16 × 1/8 in
MS20427F2-2	CRES, 300 series, condition A	None stated	1/16 × 1/8 in
MS20427C2-2	Copper	None stated	1/16 × 1/8 in
MS20427M2C2	Monel	Cadmium plated	1/16 × 1/8 in

Shear strength

Rivet	In the standard	AC 43.13-1B Table 4-8
MS20613 P, carbon steel	38,000 to 48,000 psi	35,000 psi
MS20613 C, CRES	65,000 to 85,000 psi	65,000 psi
MS20427 X or C, carbon steel	38,000 to 48,000 psi	35,000 psi
MS20427 F, CRES	65,000 to 85,000 psi	65,000 psi
MS20427 M, Monel	49,000 to 59,000 psi	49,000 psi
MS20427 C, copper	23,000 to 27,000 psi	23,000 psi

Key points

- **Triangle = carbon steel, dash = CRES,** both recessed (AC 43.13-1B Table 4-8).
- **MS20613:** P carbon steel, cadmium plated; C CRES, passivated.

Step by step

1. Read the mark and the letter.
2. Pilot, then the final drill of the diameter.
3. Countersink 100° for MS20427.

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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- **MS20427:** C after the diameter = cadmium on carbon steel; C before it = copper; F = CRES; X = black oxide.
- **Annealed after heading;** drive cold to a full head free from cracks.
- **Steel rivets never replace aluminium ones** unless the engineering data says so (T.O. 1-1A-1 3.4.11).
- **Drills go by diameter:** 1/8 in #30, 5/32 in #21, 3/16 in #11.

4. Drive cold to a full head.
5. Inspect: head seated, no cracks.

SOURCES · FAA AC 43.13-1B CHG 1, Table 4-8 and par. 7-2e, f, g · MS20613 Rev. F · MS20427 Rev. H · T.O. 1-1A-1 · FAA-H-8083-31B, Aviation Maintenance Technician Handbook, Airframe, chapter 4 · MIL-R-47196A, 6 Sep 1977

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