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Countersinking: Cutting the Well for a Flush Rivet

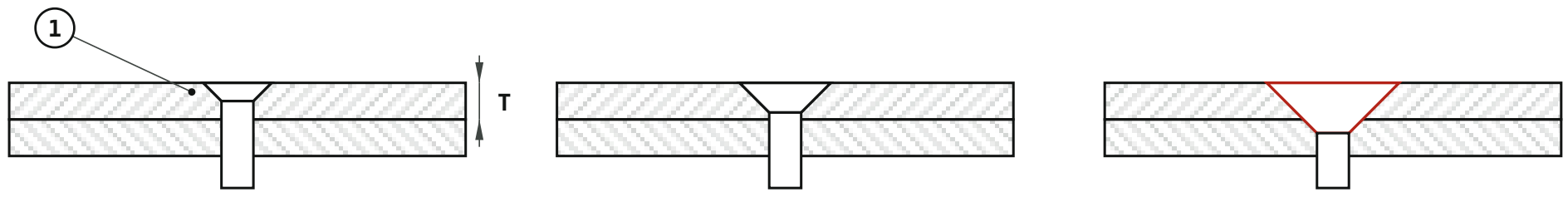
Microstop · depth · knife edge · chatter

REFERENCE DRAWING — NOT APPROVED DATA · THE SRM ALWAYS GOVERNS

PREFERRED — LAND LEFT

PERMISSIBLE — ALMOST TO THE BOTTOM

UNACCEPTABLE — KNIFE EDGE



RULE

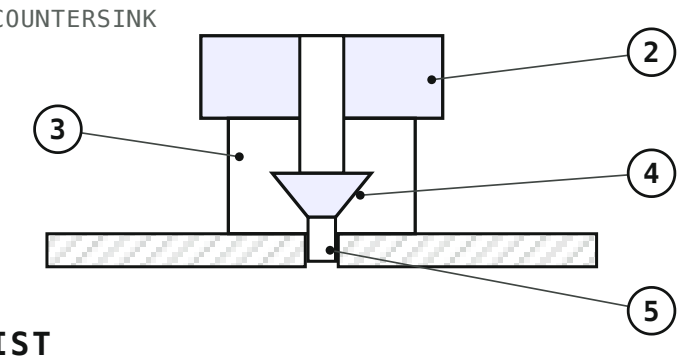
PRIMARY STRUCTURE, PRESSURIZED SKIN

DEPTH ≤ 2/3 T, OR DOWN TO 0.020 IN OF SHANK LEFT, WHICHEVER IS GREATER

SOME MANUFACTURERS' RECOMMENDATION. THE SRM OR DRAWING GOVERNS.

SECTION A

MICROSTOP COUNTERSINK



CHATTER

WHAT STOPS IT

SHARP CUTTER
SLOW SPEED, FIRM STEADY PRESSURE
PILOT 0.002 IN UNDER THE HOLE
BACKUP MATERIAL UNDER THIN SHEET
A CUTTER WITH ANOTHER FLUTE COUNT
UNDERSIZE HOLE, SINK, THEN ENLARGE

PARTS LIST

#	PART	RULE	SOURCE
1	Countersunk well	Only deep enough for head and metal to form a flush surface	H-8083-31B p. 4-40
2	Adjustable sleeve	Limit stop; set in 0.001 in steps on a micrometer type, try on scrap first	pp. 4-36, 4-41
3	Skirt	Rests on the sheet and keeps the cutter square	Fig. 4-85
4	Cutter	100° standard; 82° or 120° exist; six flutes work best in aluminium	p. 4-41
5	Pilot	About 0.002 in smaller than the hole	p. 4-41

NOTES

1. Dimensions in inches. Do not scale: the SRM sets the values.
2. For reference. The applicable manual always governs.
3. Based on FAA-H-8083-31B ch. 4.

REVISIONS

REV	DESCRIPTION	DATE
A	First issue	2026-10-30

The Aviation Point. — Structural repair reference

TITLE			
Countersinking			
DRAWING NO. TAP-DWG-055	REV A	SCALE NTS	SHEET 1 OF 1
APPLIES TO Machine countersink			
DO NOT SCALE DRAWING			

After FAA-H-8083-31B pp. 4-36, 4-40, 4-41 (Figs. 4-84, 4-85, 4-91). Depth rule as printed there: the SRM or drawing governs.

Key points

- **Try on scrap** every setup.
- **Never a knife edge.**
- **Pilot 0.002 in under the hole.**

Step by step

1. Sheet thick enough?
2. Cutter and stop.
3. Scrap, rivet, adjust.
4. Cut slow and firm.
5. Check each well.

SOURCES · FAA-H-8083-31B, Aviation Maintenance Technician Handbook: Airframe, Chapter 4

SCAN · OPEN THIS GUIDE
theaviationpoint.com/standard-practices/countersinking/

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