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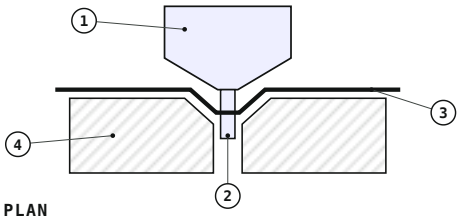
Dimpling: Flush Rivets in Thin Sheet

Dies · coin · hot · cracks

REFERENCE DRAWING — NOT APPROVED DATA · THE SRM ALWAYS GOVERNS

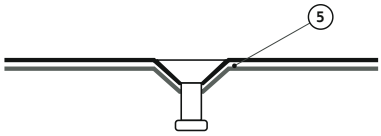
SECTION A

IN THE DIES



SECTION B

JOINT, DIMPLES NESTED



NO METAL REMOVED · SHARP BREAK INTO THE DIMPLE

PLAN

RADIAL AND CIRCUMFERENTIAL CRACKS



RADIAL · 2024-T3 CIRCUMFERENTIAL · 7075-T6

WHICH METHOD

METAL	DIMPLE
2024-T3	Hot or cold; cold may crack
7075-T6	Always hot
Magnesium	Hot
Titanium	Hot, as 7075-T6

PARTS LIST

#	PART	RULE	SOURCE
1	Male die	Same angle as the rivet head; its pilot guides it in the hole	H-8083-31B p. 4-41
2	Pilot	Size of the rivet hole; centres the male die on the sheet	p. 4-41
3	Sheet	Two or three solid hammer blows; set squeezers to the sheet thickness	p. 4-41
4	Female die	Matching angle; sits on a solid surface or bucking bar	pp. 4-41, 4-42
5	Nested dimples	Dimple reduces rivet shear and puts more load in the sheets	p. 4-42

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			
Dimpling			
DRAWING NO.	REV	SCALE	SHEET
TAP-DWG-056	A	NTS	1 OF 1
APPLIES TO			
Thin sheet, flush rivets			

DO NOT SCALE DRAWING

After FAA-H-8083-31B pp. 4-36, 4-41 to 4-43 (Figs. 4-95, 4-96). Temperatures and dwell times are not in the Handbook: they come from the equipment or the SRM.

Which metals need heat

Metal	Dimpling
2024-T3	Hot or cold; may crack after cold dimpling because of hard spots
7075-T6	Always hot
Magnesium alloys	Hot, low formability
Titanium	Hot, tough; same temperature and dwell as 7075-T6

Key points

- **Minimum blows.** Work hardening cracks it.
- **Circumferential crack: reject.**

Step by step

1. Alloy allows it?
2. Smooth hole.
3. Dies per rivet size.
4. Two or three solid blows.
5. Check flush and cracks.

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

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

 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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