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Honeycomb Sandwich Repairs: Potting, Core Plug, Injection

Which repair · potting · core plug steps · skin

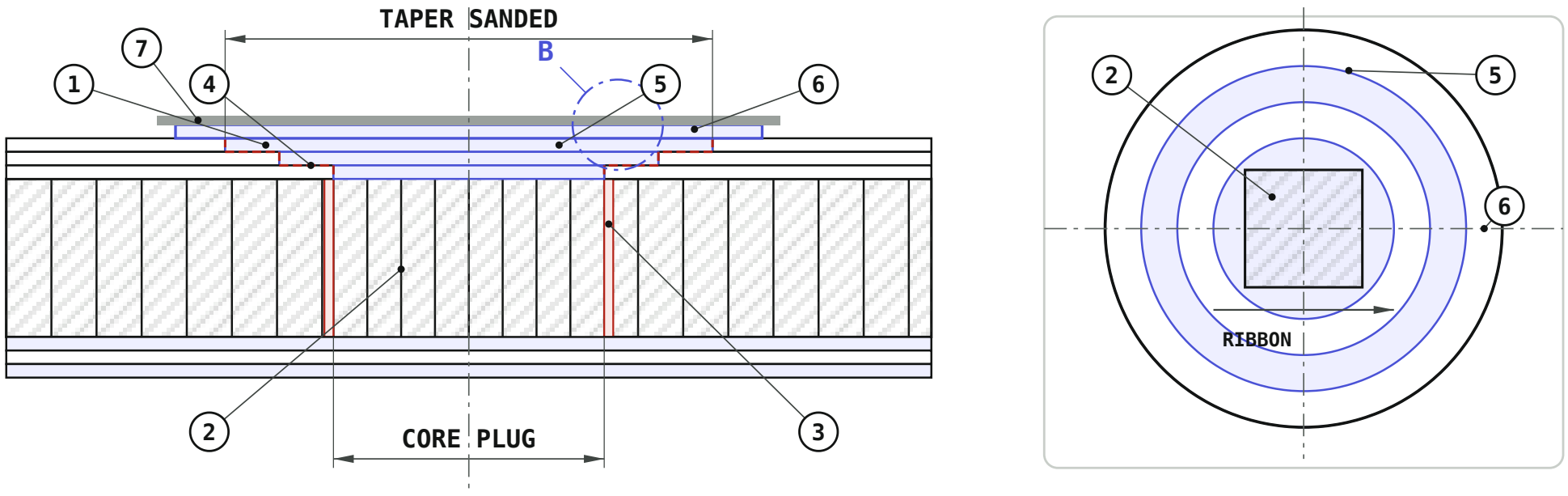
REFERENCE DRAWING — NOT APPROVED DATA · THE SRM ALWAYS GOVERNS

SECTION A–A

CORE PLUG AND A TAPERED FACING REPAIR · EXAGGERATED

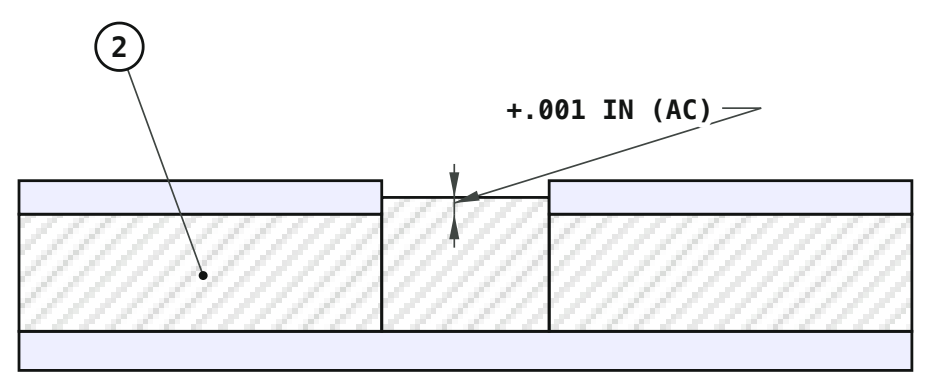
PLAN

ROUND OR OVAL, CORNERS ROUNDED



DETAIL B

PLUG HEIGHT BEFORE CURE · NOT TO SCALE



THE PLUG SITS HIGH: IT COMPRESSES AND SETS IN THE CURE

PARTS LIST

#	ITEM	RULE
1	Parent skin, tapered	1:40 or 1 in per ply
2	Core plug	Same type, class, grade
3	Foaming adhesive / potting	Around the plug
4	Film adhesive	Over the whole cut
5	Repair plies	Same direction as original
6	Extra ply	One more than original
7	Peel ply	Torn off before the paint

Count and sizes: SRM repair drawing.

NOTES

1. Dimensions in inches. Do not scale: the SRM sets the values.
2. For reference. The applicable manual always governs.
3. Based on H-8083-31B pp. 7-33 to 7-37.

REVISIONS

REV	DESCRIPTION	DATE
A	First issue	2026-10-30

The Aviation Point. Structural repair reference

TITLE			
Sandwich repair			
DRAWING NO. TAP-DWG-026	REV A	SCALE NTS	SHEET 1 OF 1
APPLIES TO Honeycomb sandwich			

DO NOT SCALE DRAWING

Section, plan, detail of the plug height and parts list, after FAA-H-8083-31B pp. 7-33 to 7-37 and AC 43.13-1B para. 3-10.

Which repair for which damage

Damage	Repair	Source, and the catch
Small core damage, under 0.5 in (Handbook) or up to 1 in (AC)	Pot it: fill with epoxy potting compound, with or without removing the core	Handbook p. 7-34; AC para. 3-10g. Potted repairs do not restore full strength; the compound is heavier than core
Dent, scratch or fracture in an aluminium facing up to 1/4 in	Fill with viscous epoxy; a fracture also gets a surface patch	AC para. 3-10a. A delaminated dent is repaired, not filled
Through one skin and into the core	Remove skin and core, install a core plug, patch the skin	Handbook pp. 7-34 to 7-37; AC para. 3-2b(3), 3-10h
Through both skins	Repair as a laminate, from both sides if both are accessible; the second side after the first has hardened	AC paras. 3-2b(3), 3-3b(4), 3-10c
Skin disbonded from the core, skin sound	Resin injection through drilled holes, on lightly loaded structure	Handbook p. 7-39. It cuts fibres, makes moisture hard to remove and may not fill completely
Damage too large for these	Overlap patch, bonded, or bolted or blind-riveted on thick structure	AC para. 3-10f. SRM or engineering decides

Key points

- **Dry the core first:** water boils in the cure and disbonds the skin.
- **Potting:** small damage; heavier than core, so check the balance of a flight control.
- **Core plug:** same type, class, grade; cells and ribbon lined up with the original.
- **Taper** 1:40, or 1 in per ply, as the SRM says; strip finish 1 in beyond.
- **Plies:** same direction, smallest first, typically one extra.

Step by step

1. Map the damage; check for water; dry the part.
2. Cut out skin and core to a smooth round outline.
3. Taper sand; strip finish; clean.
4. Fit the core plug, cells aligned; cure it.
5. Lay the repair plies in the original directions; bag.
6. Cure to the schedule; sand flush; inspect; refinish.

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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- **Not a substitute for the SRM:** one maker's method is not another's.

SOURCES · FAA-H-8083-31B, AMT Handbook — Airframe, Volume 1, Chapter 7 · AC 43.13-1B, Change 1, Chapter 3, Fiberglass and Plastics

SCAN · OPEN THIS GUIDE
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