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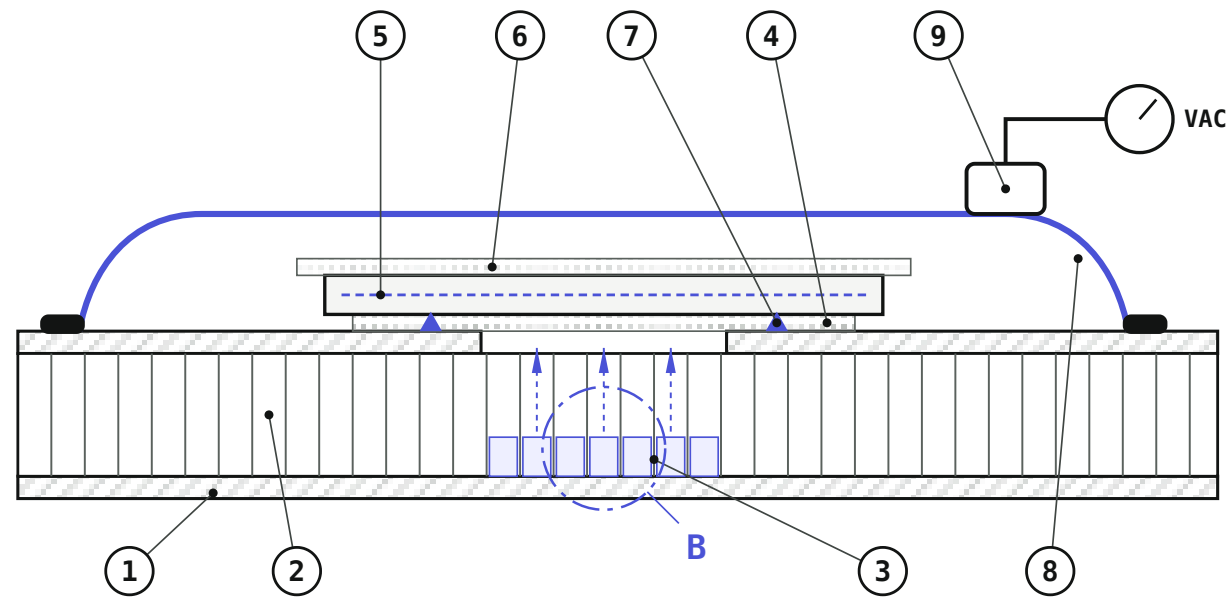
Drying a Composite Part Before Repair

Find · identify · bag · heat · check

REFERENCE DRAWING — NOT APPROVED DATA · THE SRM ALWAYS GOVERNS

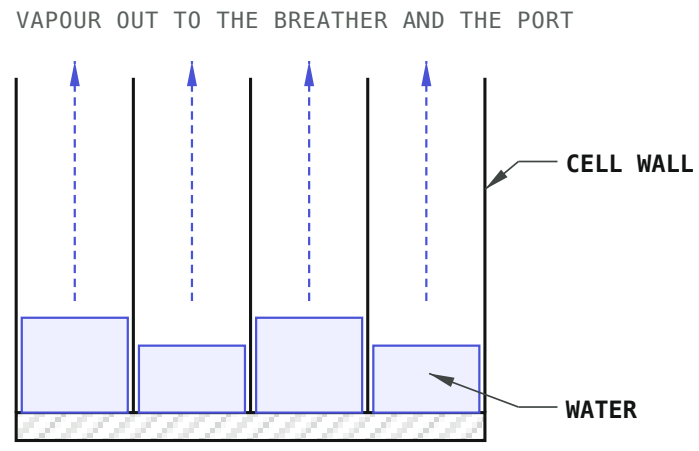
SECTION A–A

DRYING UNDER A VACUUM BAG · NOT TO SCALE



DETAIL B · WET CELLS

SCALE 4:1



LEFT IN: IT BOILS IN THE CURE OR FREEZES AT ALTITUDE (FAA 7–14, 7–35)

LIQUID IN THE CORE

WHAT IT DOES TO THE REPAIR

LIQUID	EFFECT	SOURCE
Water, in the cure	Boils above the cure; face sheets blow off the core	FAA 7-14, 7-35
Water, in service	Freezes at altitude; face sheets disbond	FAA 7-35
Hydraulic fluid	Cannot be fully removed; weeps and spoils the bond	FAA 7-14

FINDING THE WATER

METHOD	WHAT IT SHOWS	SOURCE
X-ray	Detects water in the core	FAA 7-35
Back light	Detects water in the core	FAA 7-35
Moisture meter	RF power loss; used on radomes	FAA 7-18, 7-19
Thermography	Water ingress near the surface	FAA 7-18
Neutron radiography	Shows hydrogen, so water	FAA 7-18

PARTS LIST

#	ITEM	NOTE
1	Lower skin	Undamaged
2	Honeycomb core	Wet, damage open
3	Water	In the cells
4	Breather	On the part
5	Heat blanket	Temperature per SRM
6	Breather	Over the blanket
7	Thermocouple	On the part
8	Bag and tape	Sealed to the skin
9	Port and gauge	Vacuum held

Dry before the damage is repaired.
Temperature, time and vacuum: the SRM.
Figure 7–56 shows this bag set-up.

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. 7.

REVISIONS

REV	DESCRIPTION	YEAR
A	First issue	2026

The Aviation Point. Structural repair reference

TITLE			
Drying before repair			
DRAWING NO.	REV	SCALE	SHEET
TAP-DWG-124	A · 2026	NTS	1 OF 1
APPLIES TO			
Sandwich parts			

DO NOT SCALE DRAWING

Section, detail of the wet cells, liquids in the core, ways to find the water and parts list, after the FAA-H-8083-31B vacuum bag method for drying parts (figure 7-56).

Finding the water

Method	What it does	Source
X-ray	Detects water in the core	H 7-35
Back light	Detects water in the core	H 7-35
Moisture meter	Measures the radio-frequency power loss caused by water in honeycomb; often used on nose radomes	H 7-18, 7-19
Thermography	Shows water ingress into laminates and honeycomb core; best for thin laminates and defects near the surface	H 7-18
Neutron radiography	Reveals light elements such as hydrogen, so water and corrosion products	H 7-18

What to check before the repair starts

Check	How	Source
Liquid identified	Water dried; hydraulic-fluid core and adhesive removed	H 7-14
No water left in the repair zone	The method that found it, against the SRM acceptance	H 7-18, 7-35
Thermocouples on the part	Connected to a hot bonder or temperature monitor	H 7-22, 7-24
Bag holds vacuum	Gauge on the port	H 7-34

Key points

- **Water boils in the cure** and blows the face sheets off the core.
- **Water freezes at altitude** and disbonds the face sheets.
- **Hydraulic fluid** cannot be dried out: remove the core and adhesive.
- **Find it** with X-ray, back light or a moisture detector.
- **Vacuum bag:** breather, heat blanket, breather, thermocouples, bag and gauge.
- **Temperature and time** from the SRM; the Handbook gives none.

Step by step

1. Map the damage; look for water, oil and fuel.
2. Identify the liquid.
3. Cut out core soaked with hydraulic fluid.
4. Bag the area: breather, blanket, breather, bag.
5. Heat and hold vacuum to the SRM.
6. Check the water is gone; then repair.

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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SOURCES · FAA-H-8083-31B, Aviation Maintenance Technician Handbook: Airframe, Chapter 7

SCAN · OPEN THIS GUIDE
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