INFORMATION FOR OPERATORS

Assessing the HOT Calculator for your program

The HOT Calculator is a lookup aid for holdover times after aircraft de-icing and anti-icing. It shows the published FAA and Transport Canada values for the fluid, temperature and precipitation the pilot enters, and runs a timer from fluid start.

> **Certification status:** the app is not certified, and no certification scheme for holdover time apps exists. It does not replace the official guidelines or the operator's approved procedures. This sheet gives an operator the facts needed to assess the app for its own ground de-icing and EFB program.

Status: 16 November 2026 · App data: Winter 2026-2027

Certification and approval

Approval sits with the operator, not with the app. Authorities approve or accept an operator's ground de-icing program and its EFB program. An electronic tool for holdover times can be part of both.

- **FAA:** guidance on holdover times has addressed electronic holdover time applications (eHOT) as part of the operator's winter operations plan.
- **Transport Canada:** Advisory Circular 700-061 names an application in an electronic flight bag as one way to present degree-specific holdover times within an operator's ground icing program.
- **EASA:** publishes no holdover time tables of its own and refers to the FAA and Transport Canada guidelines (Safety Information Bulletin 2025-09).

The classification of the app within an EFB program is the operator's decision, agreed with its authority where required. The provider makes no claim about that classification.

Commercial and non-commercial operations

The formal steps depend on the type of operation. Non-commercial operators have fewer formal hurdles, but the same responsibility.

OPERATION	WHAT THE RULES ASK FOR
EU commercial air transport	A type B EFB application needs an operational approval from the competent authority (Part-SPA, Subpart M)
EU non-commercial, complex aircraft (Part-NCC)	No operational approval. The operator meets the EFB requirements of NCC.GEN.131 itself, with its own assessment, procedures and training
EU non-commercial, other aircraft (Part-NCO)	No operational approval. The pilot-in-command is responsible for the use of portable devices and applications (NCO.GEN.125)
FAA Part 91 (not subpart K)	No formal operational approval if the guidance of AC 91-78A is followed
FAA Part 91K, 121, 125, 135	Authorization as part of the operator's EFB program (AC 120-76)

This is a summary, not legal advice. The applicable rules and the operator's own manuals prevail.

Data sources

All values come from two official publications for the current season.

CONTENT	DOCUMENT	ISSUE
Holdover times, allowance times, frost, LOUT, fluid application	FAA Holdover Time Guidelines Winter 2026-2027	Original Issue, 11 August 2026
Degree-specific holdover times for snow	Transport Canada Degree-Specific Holdover Times (DSHOT) Winter 2026-2027	Original Issue, 11 August 2026

The app covers 51 holdover tables: Type I, II, III and IV fluids, generic and brand-specific, plus Appendix A for flaps and slats deployed before de-icing. DSHOT data is included for 49 fluids.

How results are produced

The app looks values up; it does not run a model of its own. Every holdover time shown is a published FAA or Transport Canada value, stored as a table inside the app.

1. The pilot selects the fluid and enters temperature and precipitation, by hand or from a METAR.
2. The app selects the matching table and cell.
3. The app shows the published lower and upper holdover time and any applicable warning.

Any result can be checked against the original document in about a minute. The tables are stored in the app, so results do not depend on a data connection.

Verification and testing

No table value is typed in by hand, and no release ships without passing the full test set.

- **Extraction:** the tables are read automatically from the official FAA document and the Transport Canada DSHOT database.
- **Independent cross-check:** a second, separate procedure reads the same sources and the two results are compared.
- **DSHOT:** values are recalculated from Transport Canada's published regression coefficients and compared with the FAA tables. Rows that would exceed the FAA value are not used.
- **Automated tests:** more than 370,000 test cases compare the app's lookup logic with an independent reference implementation. The Android and iPhone versions run the same test cases.
- **Release gate:** each build is tested automatically, and a build that fails is not released.

Functions and limits

The app supports the decision; the decision stays with the pilot in command. A holdover time is an estimate, and the required pre-takeoff checks remain unchanged.

FUNCTION	WHAT THE APP DOES	WHAT STAYS WITH THE CREW
Holdover time lookup	Shows the published time range for the selected fluid, temperature and precipitation	Confirm fluid product, mixture and actual conditions
METAR import	Reads temperature, visibility and precipitation from the METAR and derives snowfall intensity from the FAA visibility table	Check against ATIS and what is actually falling; a METAR can be out of date
LOUT warning	Warns when the outside air temperature is below the lowest operational use temperature of the fluid	Confirm the fluid actually applied
Timer and alarm	Counts from fluid start and alerts at the lower and upper limit, also on the lock screen	Phone settings such as silent mode can mute alerts
Type I mixture check	Checks the freezing point buffer of 10 °C	Use the freezing point reported by the de-icing provider
DSHOT	Shows degree-specific times for snow after the user confirms a notice	Use only if approved in the operator's program
De-icing log	Records time, airport, METAR and holdover time; export as PDF	Not an official record unless the operator defines it as one

Failure and fallback

If the app fails or a result is in doubt, the crew uses the official holdover time tables as carried in the operator's documentation. The app is an additional aid and never the only source on board.

- **No data connection:** all tables are stored in the app. Weather values are entered by hand.
- **Device or app failure:** revert to the operator's paper or electronic tables.
- **Doubt about a result:** the official document prevails.

Data protection and connectivity

The app needs no user account and contains no advertising, analytics or tracking. The provider runs no server and receives no personal data from users.

- **Stored on the device only:** settings, recently used airports and fluids, the running timer and the de-icing log.
- **Weather request:** the app fetches the METAR directly from aviationweather.gov (US National Weather Service). Only ICAO codes are sent.
- **Location (optional):** used on the device to find the nearest airport. The position is not stored and not transmitted.
- **Subscription:** handled by Google Play or the Apple App Store.

Full privacy policy: hot.emb500.de/datenschutz

Updates and change management

The tables are rebuilt once per season from the new FAA and Transport Canada publications, using the same extraction and verification steps.

- **Data status in the app:** the source document, issue and date are shown in the app, and the user confirms the disclaimer again for each new season.
- **Outdated data:** the app shows a warning when a new FAA edition is due and marks the tables as outdated once the season has ended.
- **Season updates:** the tables of each new season are part of the Pro subscription.
- **Change log:** a list of changes for each release is available from the provider on request.
- **Platforms:** Android 8 or later and iPhone with iOS 16 or later; English, German, French and Spanish; °C or °F.

Including the app in your program

These steps are a suggestion; the operator's own procedures and its authority decide what is required.

1. Describe the app in the ground de-icing program as an aid for determining holdover times, with the official tables as the reference and fallback.
2. Assess and classify the app in the EFB program, using this sheet and the user guide.
3. Verify a sample of results against the official tables and keep the record.
4. Decide whether DSHOT is used, and obtain the approval it needs.
5. Brief crews on use, limits and fallback.
6. Define how the app is kept current at the start of each season.

User guide: hot.emb500.de/anleitung

Contact

GMA Aviation Services, Guido Marhenke, 348 Allée Nicolas Greff, 57600 Oeting, France. E-mail: info@emb500.de. Documentation and support for an operator's assessment are available on request.

Sources

- FAA Aircraft Ground Deicing: Holdover Time Guidelines – https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/deicing/
- Transport Canada: Holdover Time Guidelines – https://tc.canada.ca/en/aviation/general-operating-flight-rules/holdover-time-hot-guidelines
- Transport Canada Advisory Circular 700-061: Degree-Specific Holdover Times – https://tc.canada.ca/en/aviation/reference-centre/advisory-circulars/advisory-circular-ac-no-ac-700-061
- EASA Safety Information Bulletin 2025-09 – https://ad.easa.europa.eu/ad/2025-09
- EASA Easy Access Rules for Air Operations – https://www.easa.europa.eu/document-library/easy-access-rules/online-publications/easy-access-rules-air-operations
- FAA Advisory Circular 91-78A – https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_91-78A.pdf
- FAA Advisory Circular 120-76E – https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_120-76E_FAA_Web.pdf

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The HOT Calculator is a lookup aid. It does not replace the official guidelines or the operator's approved procedures. No affiliation with the FAA, Transport Canada or EASA.