

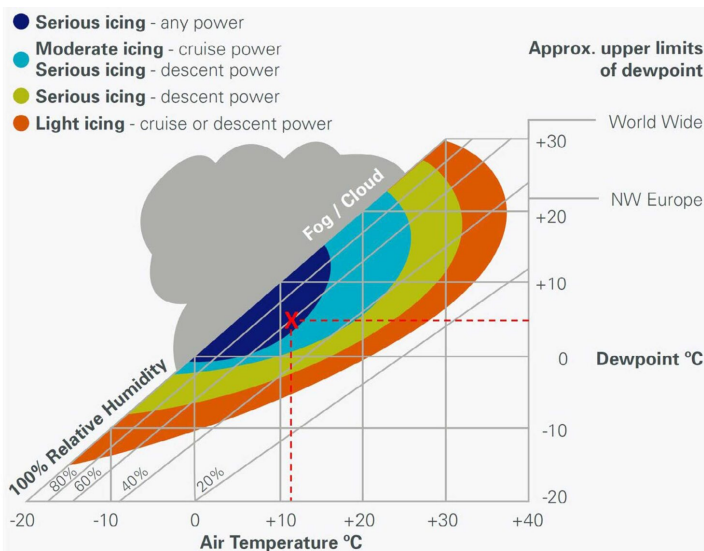
## CARBURETTOR ICING AWARENESS -AQUILA-

With spring well underway, fluctuating temperatures and high relative humidity increase the risk of **Carburettor Icing** —particularly during low-power operations on the ground and in-flight.

**Reminder:** Carb Ice isn't just for winter - it can occur in a wide temperature range, from **-12°C** up to **38°C**, given the right conditions!!

### ❄️ When is Serious Icing More Likely?

- \* Ambient temperatures between 0-15°C combined with high humidity.
- \* Low-power settings: cold start-up, taxi, holding short, slow flight, descent.
- \* Moisture in the air: light rain, fog drizzle, or dew.



Classic "Severe Carb Ice" weather example:

~ 11°C OAT, ~ 5°C dew point, light rain and wet surfaces

### ⚠️ Symptoms of Carburettor Icing in the Aquila

#### On the Ground:

- Engine may struggle to maintain 800 RPM after start-up, possibly leading to rough running or stalling. A short application of carb heat may help.

**Note:** This can also happen due to low engine temps, not necessarily carb icing.

- During run-up (in humid days) carb ice can be undetectable at higher power settings. Apply carb heat for 10 seconds, then switch it off: No RPM change = no ice; if RPM increases = ice was present and has now cleared.

#### In-Flight ✈️

The constant-speed propeller maintains RPM, so carb ice symptoms can be subtle and insidious.

- A drop in MAP (Manifold Pressure) may be your only early clue.
- Pilots often open the throttle in response, restoring MAP and unintentionally masking the issue.
- If untreated, carb ice will build up enough to cause engine roughness.

#### 🔧 Handling & Preventing Carb Icing - Aquila

##### On the Ground:

- ▶ Monitor engine performance after start-up. Allow sufficient engine warm-up to prevent rough running. More information: [Aandachtspunten pre-start en koude start Rotax 912](#)
- ▶ Follow aircraft checklists and apply carb heat as required (extra attention in humid days).
- ▶ If there's a delay before takeoff in icing-prone weather, repeat the carb heat check before departure.

**Note:** Avoid unnecessary use of carb heat during taxi —it bypasses the air filter.

#### In-Flight ✈️

##### General Monitoring:

- Keep an eye on engine performance changes (MAP, RPM).
- If performance degrades unexpectedly, suspect carb ice —especially if throttle position has not been changed.

##### Preventive Use During Approach:

- When MAP setting is **below 20"** (e.g., on base and final), apply carb heat as preventive measure. This avoids carb ice forming during a long descent or a prolonged low-power flight.

##### During Cruise:

- If carb ice is suspected, apply carb heat for 10 seconds and monitor changes. Repeat as required.

**Note:** Avoid using carb heat continuously unless necessary —prolonged use in-flight can raise combustion temps, potentially causing engine damage (e.g., pre-ignition or cylinder wear).

#### ✅ Final Thoughts

- ✓ A mix of humidity, temperature and light precipitation = prime conditions for carb icing.
- ✓ Understand the insidious nature of symptoms in aircraft with a constant-speed propeller.
- ✓ Apply carb heat preventively during approach and strategically during cruise if ice is suspected.
- ✓ Stay ahead with regular engine instruments monitoring.

Fly Safe!

*Karina van Twisk*