



**Federal Aviation Administration
Aviation Safety
Office of Accident Investigation & Prevention
Accident Investigation Division, AVP-110**

Party Submission to the National Transportation Safety Board

**Aircraft Accident
Bering Air Flight 445
Textron Aviation 208B (N321BA)
Nome, AK, USA
February 6, 2025**

**FAA Case Number: 25-31
NTSB Case Number: ANC25MA018**

**Submitted
April 14, 2026**

Accident Summary

On February 6, 2025, about 1520 Alaska standard time, a Textron Aviation (Cessna) 208B airplane, N321BA, operated as Bering Air flight 445, was destroyed when it was involved in an accident near Nome, Alaska. The pilot and nine passengers were fatally injured. The airplane was operated as a Title 14 Code of Federal Regulations (CFR) Part 135 scheduled commuter flight.

No significant meteorological information advisories or center weather advisories (CWA) were issued for the accident site at the accident time. Airmen's meteorological information (AIRMET) advisories Sierra and Zulu were issued for the accident site at the accident time for below 15,000 ft. The AIRMETs were issued at 1237 AKST and forecast IFR conditions and mountain obscuration due to light snow and mist, clouds and precipitation, and occasional moderate icing between 2,000 and 8,000 ft mean sea level (msl).

FAA Response

A Senior Air Accident Investigator from the Federal Aviation Administration's Office of Accident Investigation & Prevention was deployed to Alaska to conduct the FAA's parallel safety investigation, and to support the NTSB's investigation as FAA Party Coordinator. Additionally, two Aviation Safety Inspector's from Anchorage FSDO traveled to support the investigation.

Party Status

The Federal Aviation Administration is granted party status to NTSB aircraft accident investigations by statute. As the regulator, the FAA is uniquely positioned to support an accident investigation as the authority on the aircraft's type design and certification, as well as oversight responsibility of the operator. If immediate safety concerns are discovered during an investigation, the FAA can quickly respond with the appropriate actions (Airworthiness Directives, for example).

Also supporting this investigation were party members from:

- Textron Aviation,
- Bering Air Inc,
- Garmin Aviation, and
- Pratt and Whitney Canada.

Investigation & Examination

Post-accident inspection confirmed the presence of ice accumulation on various surfaces, including the beacon/strobe light base. While the TKS (de-icing fluid) system panels showed continuity, the total amount of fluid on board at impact could not be determined due to tank damage.

The NTSB Airworthiness Factual Report details the aircraft's maintenance history, including a 100-hour inspection completed just one month prior to the crash on January 7, 2025. A Systems Specialist's Report includes 14 photos of key aircraft systems.

Detailed examinations of the engine and a teardown of the McCauley propeller were conducted to rule out mechanical failure. Initial results indicated that the propeller exhibited rotational scoring consistent with being under power at impact.

An aircraft performance study was conducted which analyzed the flight's aerodynamic behavior, specifically focusing on the decay in airspeed while in icing conditions. The investigation also revealed that the aircraft was likely to be significantly over gross weight. The estimated takeoff weight was 9,865 pounds, which is 1,058 pounds over the certificated limit for flights into icing conditions.

Investigators successfully recovered and examined personal electronic devices (PEDs) and cockpit display data to reconstruct the final moments of the flight.

Over the course of the investigation, more than 600 pages of interview transcripts were compiled from personnel at Bering Air, trainers from Flight Safety International, and FAA representatives. During several of these interviews, numerous individuals noted that many AWOS and ASOS systems in Alaska are inoperable and require maintenance. In some cases, these outages persist for months due to the limited availability and scheduling constraints of repair technicians.

Recorded Data

Per Title 14 Code of Federal Regulations Part 135, the accident aircraft was not required to be fitted with a flight data recorder (FDR). The accident aircraft was equipped with a Garmin G1000 suite of avionics, which logged parametric data onto removeable Secure Digital (SD) data cards. Data was provided to party members in an Excel CSV format, which encompassed approximately three flights including the accident flight.

The data logged 53 basic parameters, including Date & Time, Latitude, Longitude, Indicated Altitude, Indicated Airspeed, Groundspeed, Pitch, Roll, and Accelerations. The TKS fluid quantity was not recorded. The FAA Accident Investigation Branch analyzed this data, which did not indicate any preexisting anomalies with the engine or airframe.

Findings

- The pilot was appropriately trained and qualified to operate the aircraft.
- The aircraft was significantly overweight for flight into icing conditions.
- The aircraft likely flew into severe icing conditions that exceeded the de-icing capabilities of the aircraft.
- The pilot reduced engine power to facilitate a descent to 4,000' MSL. Sufficient power was not restored and the aircraft airspeed continued to decay.
- The coupled autopilot masked the deteriorating flight characteristics while the aircraft was in instrument meteorological conditions.
- This decay led to an aerodynamic stall and uncontrolled descent from which recovery was not possible.
- The investigation team found no evidence of powerplant, airframe, or mechanical failure.

Conclusion

The Federal Aviation Administration concludes the accident resulted from the pilot's reduction of engine power while leveling off in icing conditions, which, combined with the accumulation of severe icing, resulted in the aircraft's airspeed decaying below the critical stall speed, leading to an aerodynamic stall and subsequent unrecoverable descent into terrain.

Contributing to the accident was the aircraft's excessive weight, which exceeded the maximum allowable gross weight for flight into known icing conditions. Also, contributory was the operator's inadequate application of weight and balance procedures, as evidenced by 44 percent of sixteen sampled Bering Air flights which were shown to be operating over maximum gross takeoff weight, indicating a recurring operational deficiency.

Safety Recommendations

The FAA Investigator-in-Charge and NTSB Party Coordinator made the following

safety recommendation to the **Federal Aviation Administration**:

1. Evaluate the privatization of maintenance on FAA Automated Surface Observing Systems (ASOS) and Automated Weather Observing Systems (AWOS) equipment in remote regions of Alaska and provide training to local technicians living in these areas to reduce outages and expedite repair times.
2. Evaluate whether other FAA equipment, beyond Automated Surface Observing Systems (ASOS) and Automated Weather Observing Systems (AWOS), could benefit from being included in a privatized or alternative maintenance program to improve reliability and reduce outages in remote regions of Alaska.
3. Amend the record-keeping requirements of 14 CFR 135.63(c) to apply to single-engine aircraft as well as multi-engine aircraft. Additionally, require a copy of the computed weight & balance to be sent to the company's home base or left at the point of departure with a company agent.
4. Amend the requirements of 14 CFR 135.151 to require single-engine turbine-powered aircraft as well as multi-engine aircraft, regardless of seating capacity and operating under Part 135, be fitted with a cockpit voice recorder. Most aircraft that fit into this category already require a CVR in other parts of the world. Each flight in multiengine turbine-powered aircraft with 6 or more seats and requiring two pilots, or a multiengine turbine-powered aircraft with 20 or more seats, Title 14 *Code of Federal Regulations (CFR)* 135.151 requires the carriage of a cockpit voice recorder. Single-engine turbine-powered operations, such as the accident flight, are excluded from this requirement.
5. Require all Part 135 operations utilizing Garmin G1000 and G3000 avionics suite to adopt a method of "crash protecting" the log data via a system of their choice.

Note: AVP-110 supports NTSB Recommendations A-89-135, A-99-061, and A-15-029, A-06-01, the origins of which began over 35 years ago, and which are the same as SR 25.017.

The FAA Investigator-in-Charge and NTSB Party Coordinator made the following safety recommendations to **Garmin**:

6. Assist in facilitating the "crash protection" of the SD card data to allow either Garmin or other third-party vendors to duplicate the log file, in real time, onto a hardened solid state recording device. Examples of methods (not all-inclusive) of compliance with this recommendation are as follows:

- Garmin could produce a crash-hardened recording device that records a mirror image, in real time, of the SD card log file.
- Garmin could produce a wiring harness that would output the log file data (using existing data bus architecture) and allow third-party vendors to record that output to a recording device of their own design.
- Garmin could provide detailed documentation on how a third-party vendor could create a harness, or other tool, to record the log file data in real-time to a hardened device of their own design.

The FAA Investigator-in-Charge and NTSB Party Coordinator made the following safety recommendations to **Textron Aviation Company:**

7. Amend the C208B Pilot Operating Handbook to reflect a minimum airspeed in icing conditions to 120kts as previously issued: This would apply to all C208 series aircraft equipped for flight into known icing. Previously, the NTSB issued a safety Recommendation for a minimum airspeed in icing conditions for C208B aircraft. A-06-01: "Require all operators of Cessna 208 series airplanes to maintain a minimum operating airspeed of 120 knots during flight in icing conditions, even if a descent is required to do so."