



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

February 21, 2022

Specialist's Factual Report

AIR TRAFFIC CONTROL

ANC21LA073

A. ACCIDENT

Location: Fairbanks, Alaska
Date: August 16, 2021
Time: 1452 Alaska daylight time (AKDT)¹
2252 coordinated universal time (UTC)
Airplane: Cessna 208, N97HA, Wright Air Service flight 440 (WRF440)

B. AIR TRAFFIC CONTROL SPECIALIST

Specialist Brian Soper
National Transportation Safety Board (NTSB)
Washington, D.C.

C. SUMMARY

On August 16, 2021, about 1452 Alaska daylight time, a Cessna 208B, N97HA, was substantially damaged when it was involved in an inflight upset near Fairbanks, Alaska. The pilot and eight passengers were not injured. The airplane was operated by Wright Air Service as a Title 14 *Code of Federal Regulations* Part 135 scheduled commuter flight, as flight number 440 (WRF440).

D. DETAILS OF THE INVESTIGATION

The air traffic control (ATC) specialist did not travel in support of this investigation and all work was conducted from the home office. ATC services were provided by Fairbanks Airport Traffic Control Tower (FAI ATCT), and Anchorage Air Route Traffic Control Center (ZAN ARTCC). Surveillance and audio data were provided by the Federal Aviation Administration (FAA).

E. FACTUAL INFORMATION

1.0 Flight Track Surveillance Information

The airplane was equipped with a transponder and was transmitting a discrete beacon code of 2341 as assigned by ATC. The airplane was Automatic Dependent Surveillance-Broadcast (ADS-B) equipped and transmitting.

1.1 Automatic Dependent Surveillance - Broadcast

ADS-B is a surveillance system in which an aircraft or vehicle to be detected is fitted with cooperative equipment in the form of a data link transmitter. The aircraft or vehicle periodically broadcasts its GPS-derived position and other information such

¹ All times are in Alaska daylight time (AKDT) unless otherwise indicated.

as velocity over the data link, which is received by a ground-based transmitter and receiver (transceiver) for processing and display at an ATC facility. The ADS-B data were of good quality and used to produce the flight track graphics in this report².

2.0 History of Flight

The following timeline was produced using the certified audio re-recordings provided by the FAA. Times are rounded to the nearest minute, and altitudes are indicated in feet above mean sea level (msl) unless otherwise indicated³.

- 1424 The pilot of WRF440 first checked in with the FAI ATCT west radar (WR) controller climbing through 1,100 feet for 10,000 feet. The controller acknowledged.
- 1432 The FAI ATCT WR controller instructed the pilot of WRF440 to contact ZAN ARTCC. The pilot acknowledged.
- 1433 The pilot of WRF440 checked in with the ZAN ARTCC sector 15 radar (R15) controller climbing through 7,500 feet for 10,000 feet. The controller acknowledged.
- 1444 The pilot of company traffic (WRF480) reported on frequency that they were picking up light to moderate mixed icing and requested lower. The controller acknowledged and instructed WRF480 to descend to 7,000 feet.
- 1445 The pilot of WRF440 requested block altitude 10,000 through 12,000 feet. The controller approved their request.
- 1446 The pilot of WRF440 queried the ZAN ARTCC R15 controller about the previous report of icing made by WRF480. The controller advised it was light to moderate mixed icing and a temperature of -2°.
- 1453 After three attempts by the ZAN ARTCC R15 controller to contact WRF440 with no response, the pilot of WRF440 declared an emergency and requested to descend to 1,000 feet. The ZAN ARTCC R15 controller advised the minimum IFR⁴ altitude (MIA)⁵ in the area was 5,000 feet.
- 1454 The pilot of WRF440 requested to cancel IFR in order to get lower. The R15 controller acknowledged the IFR cancellation.

² ADS-B source data is included in Attachment 1: ADS-B Data

³ A partial transcript of pilot-controller communications is included in Attachment 2: ATC Audio Transcript and certified audio re-recordings are included in Attachments 4-6, ATC Audio.

⁴ Instrument Flight Rules [ICAO]- A set of rules governing the conduct of flight under instrument meteorological conditions.

⁵ Minimum altitudes for IFR operations as prescribed in 14 *CFR* Part 91. These altitudes are published on aeronautical charts and prescribed in 14 *CFR* Part 95 for airways and routes, and in 14 *CFR* Part 97 for standard instrument approach procedures.

1456 The pilot of WFR440 requested to return to FAI. The controller cleared WFR440 to FAI via direct at 6,000 feet. The pilot acknowledged.

1500 The pilot of a Navajo (N4079H) reported that they were picking up moderate mixed icing at 8,000 feet and the temperature was -3°.

The pilot of WRF440 stated they were still having flight control issues.

1501 The pilot of company traffic (WFR380) reported moderate mixed icing above 8,000 feet and descending through 8,000 feet it was starting to come off.

1502 The pilot of WRF480 reported that the icing they had experienced at 8,000 feet was a large impact with mixed moderate icing that swept back on the top surface of the wing.

The ZAN ARTCC R15 controller asked the pilot of WRF440 if their emergency was due to icing, to which the pilot responded they had picked up some light rime icing but that was not the reason for the emergency, and that it seemed like a flight control jam, but felt it was under control again.

1503 After coordinating with FAI ATCT, the ZAN ARTCC R15 controller transferred control of WRF440 to the FAI ATCT WR controller.

1504 The pilot of WRF440 checked in with the FAI ATCT WR controller requesting to descend visually into the airport for landing. When asked if they wanted vectors, the pilot stated they would like to do it on their own and advised that they still were having flight control issues. The controller acknowledged.

1509 The pilot of WFR440 advised they had 9 persons on board, and 4 and ½ hours of fuel on board.

1512 The pilot of WFR440 reported the airport in sight and requested runway 2R. The controller cleared WFR440 for the visual approach to runway 2R and coordinated the opposite direction operation and transferred control to the FAI ATCT local (LC) controller.

1513 The pilot of WFR440 checked in with the FAI ATCT LC controller inbound for runway 2R. The controller acknowledged and cleared them to land runway 2R.

1514 WFR440 landed runway 2R at FAI.

There were no further recorded transmissions germane to the accident sequence.

3.0 Flight Track Graphics

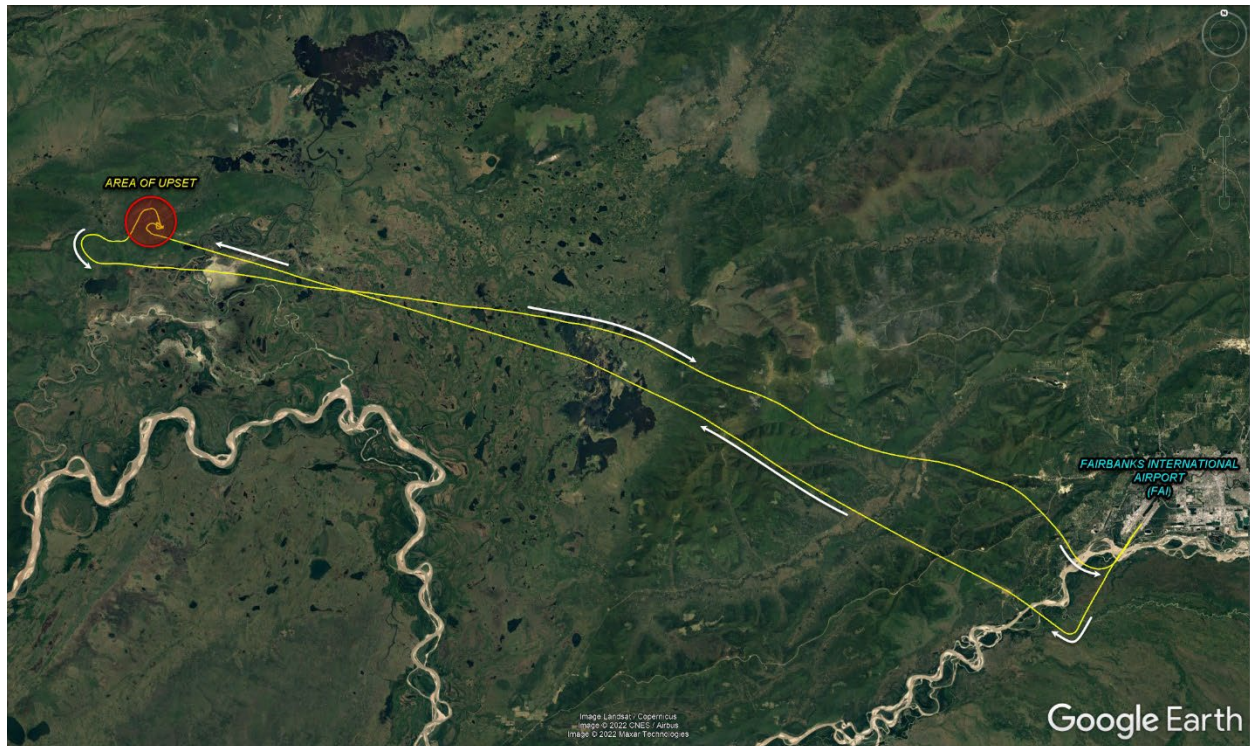


Figure 1. Overview of the accident flight track overlaid onto satellite imagery.

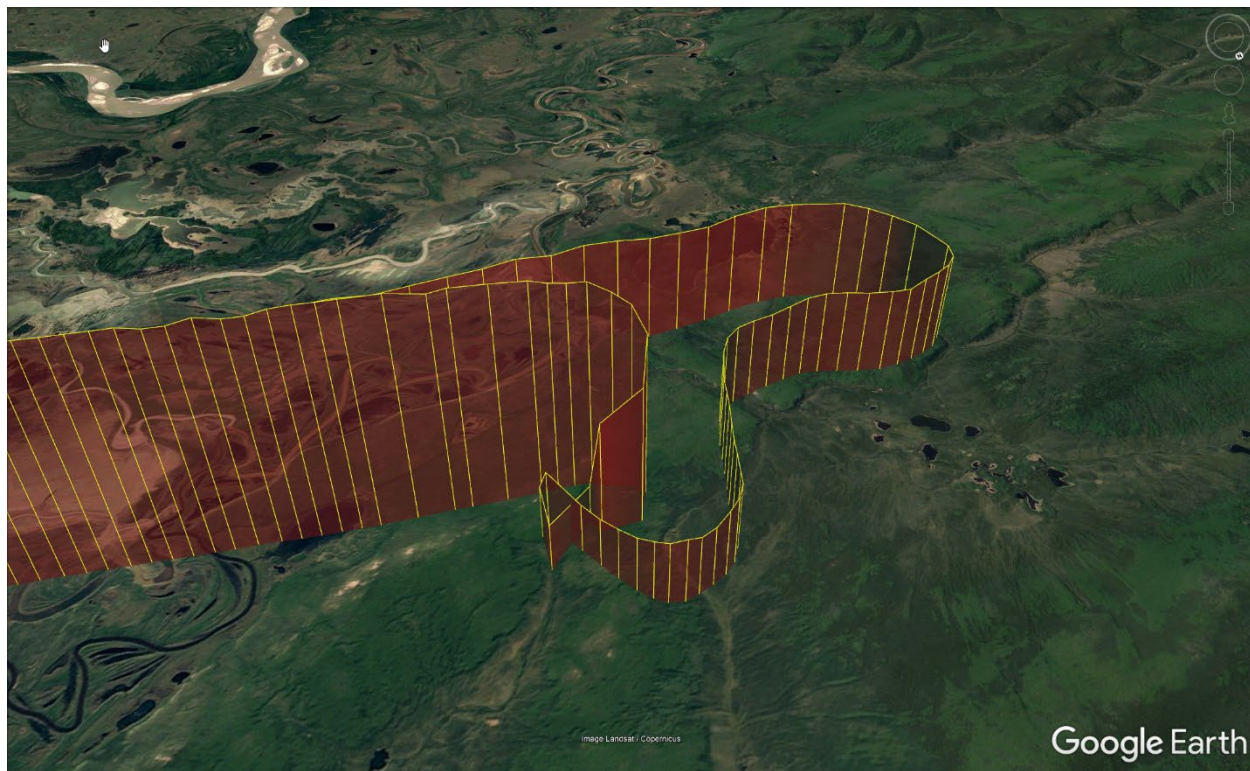


Figure 2. Flight track segment of the upset in profile view, oriented looking from NNE to SSW.

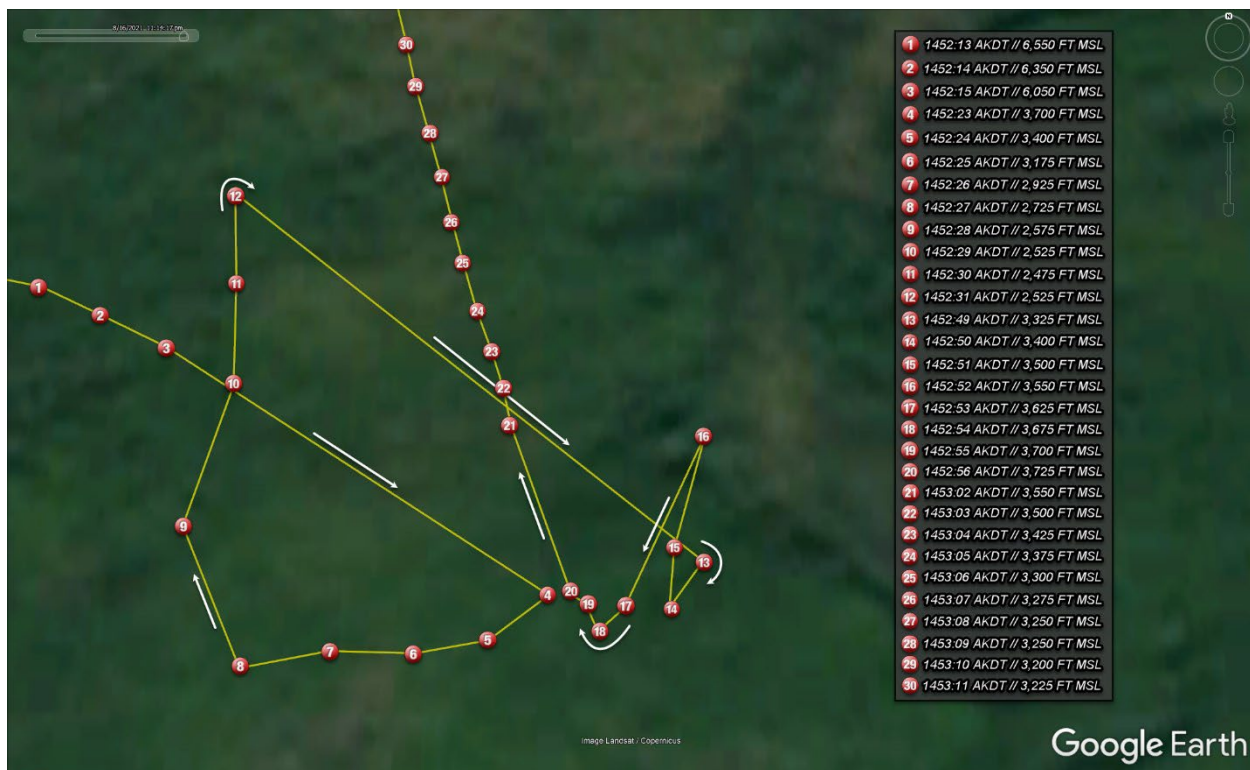


Figure 3. Flight track segment of the upset, with time and altitude information overlaid onto satellite imagery.

F. LIST OF ATTACHMENTS

Attachment 1: ADS-B Data

Attachment 2: ATC Audio Transcript – Partial

Attachment 3: Flight Track Graphics

Attachment 4: ATC Audio – FAI ATCT WR Controller

Attachment 5: ATC Audio – FAI ATCT LC Controller

Attachment 6: ATC Audio – ZAN ARTCC R15 Controller

Submitted by:

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