

FLIGHT 32 IS DOWN

We had just landed at our small hub in Riverton, Wyoming, and I could see the flight had arrived from Billings, Montana. The flight from Denver was in the pattern. Ed Radford, my copilot, and I hurried into the crewroom to enjoy a short visit with the crew from Montana, who turned out to be Captain Ken Huber and his copilot Daniel Gough. Captain Huber and I had recently attended a six-month check in Denver and had become quite well acquainted. He was a straightforward individual who attended to business and yet had a friendly disposition that made one feel comfortable to be around him. Although it had not been my privilege to fly with him, word coming out of Denver was Huber's an excellent DC-3 pilot with many hours of experience flying the rugged Rockies.

In the early hours of 13 March 1964, my phone was ringing off the hook. I groped for it and managed to get the receiver to my ear. It was my friend Captain Dick Ure. I woke up when I heard the words, "Flight 32 is down at Miles City, Montana, and Ken Huber was the captain." The word was presented an ominous foreboding. I knew it was bad and going to get worse. Flight 32 impacted the ground less than two miles from the Miles City Airport during an instrument approach in adverse weather conditions. Crews who had experienced flying that far north had their own ideas regarding the sudden termination of flight 32: Low Level Icing.

The CAB (Civil Aeronautics Board) made a thorough investigation into the cause of the accident, and File No. 1-0004 reveals the result of their report. The crew arrived at the company's operations at Billings between 6:30 and 6:45 P.M. to prepare for the flight. At 7:25 P.M. the captain received a weather briefing from the U.S. Weather Bureau. A cold front was approaching Miles City and gusty northwest winds would persist with turbulence and moderate icing. Squalls would prevail in the area. The forecast for Miles City called for ceilings 2,000 feet above the ground, with visibility 3 miles, light snow, wind northwest 20 knots with gusts, occasional visibility 1 mile, light snow.

Flight 32 departed Billings at 8:01 P.M. It had been cleared to fly the airway to Miles City VOR (Navigational radio fix) at an altitude of 7000 feet and estimated arrival over the Miles City VOR at 8:42 RM—approximately 41 minutes en route. Nineteen minutes after departure, Great Falls Air Route Traffic Control Center relayed the latest weather at Miles City to flight 32: ceiling 1,000 feet above the ground, visibility 4 miles, light snow showers, wind northwest 25 with gust to 35 knots, and cleared the flight to make an instrument approach to Miles City airport.

At 8:45 P.M. the flight advised Miles City Flight Service they had passed over the radio fix at 8:45 and were starting the approach. They also contacted the company radio at Miles City and advised they had crossed over the VOR and gave their fuel load aboard as 485 gallons. The company radio advised there was no reported traffic in the area and the wind was 20 with gusts to 30 knots out of the northwest. The flight advised they would be on the ground in 3 minutes and they would need a rudder lock (locks the large rudder in place, when on the ground in gusty winds). The station acknowledged. This was the final transmission between the flight and the company station agent.

Flight 32 reported to the Miles City Flight Service that they had passed over the VOR inbound to the field and that they planned to land northwest into the wind. This was the last radio contact between the flight and the Miles City Flight Service. In none of the transmissions from the flight was there any mention of operational distress or of weather conditions encountered.

At 8:50 P.M., aircraft number 442 struck the ground in a slight nose-up attitude. The investigation showed the aircraft to be in a landing configuration. After initial impact the aircraft began to disintegrate and continued moving for a distance of about 600 feet. Fire developed and the major portion of the aircraft was destroyed.

Fire and other damage made it impossible to determine the readings of many of the instruments. However, the captain's altimeter was at the proper setting. The location of the crash site showed it to be on its proper course to the field. Examination of the maintenance records of the aircraft indicated that maintenance had been current. No item that could logically be related to this accident was discovered. Fire at impact and the time interval before persons reached the crash site made it impossible to determine if airframe icing had been present at impact. A record special observation was taken at 8:55 PM, five minutes after the accident, which said in part: indefinite ceiling 500 feet, sky obscured, visibility 1 mile, light snow showers, temperature 32 degrees, wind northwest 20 gusting to 30 knots.

One witness, a technician who was inspecting the ground navigation radio facility, reported he saw an aircraft which he could identify as a DC-3, pass overhead toward the airport at a height of approximately 1,000 feet and about 600 feet north of his position. According to the witness, the aircraft appeared and sounded normal at this point. He estimated that wind gusts were 35-40 knots, "or maybe more," that the wind was strong enough to move small rocks on the ground and that the driving snow was very wet. Another witness, who was in a parked car about 3-1/2 miles south of the airport, did not see or hear an airplane but did see a red flash in the sky, and the whole sky to the west was lit up. He noted a gusty wind from the north with snow or sleet. A pilot witness was in his home in Miles City about one mile southeast of the airport. He heard an unusually loud noise from an airplane which lasted four to eight seconds and ended abruptly. He described the weather as moderate wet freezing snow with wind gusts of 30-40 knots.

The investigation revealed no improper procedures and/or malfunctions of any of the related equipment pertaining to this accident. It must be borne in mind that strong winds with blowing wet snow and low ceilings could and probably did significantly distort both sounds and sightings as described by witnesses. The evidence indicates that the aircraft flew over the VOR at approximately 8:48 P.M. about 1,090 feet above the surface. The aircraft at this position, according to the witness, appeared and sounded normal in all respects. Yet, the point of impact was located only 1.7 miles from the VOR where the minimum descent altitude should have been approximately 400 feet above the ground.

Because there is no evidence of any failure or malfunction of the aircraft or navigational aids, the board cannot state, with any degree of certainty, the reason for the unexplained departure from the minimum descent altitude.

It was determined that weather conditions in the vicinity of Miles City were conducive to moderate to heavy airframe icing in clouds and precipitation. Strong gusty winds over the rough terrain would likely have produced moderate to severe turbulence in the area. Under these conditions, large ice accretions on the wing surfaces would have become a serious detriment to airspeed and altitude control, especially after the landing gear and flaps were extended. With such an accumulation of ice, it is possible that prior to or at the time the flight reached its minimum descent altitude (400 feet) above the ground, the descent could not be arrested without a serious loss of airspeed. A situation of this type, it is recognized, could necessitate lowering the nose of the aircraft to regain airspeed, resulting in a rapid loss of altitude and operation below a safe terrain clearance altitude.

In conclusion, the CAB determined that although existing weather conditions were conducive to airframe icing, there is insufficient evidence available to support a definitive finding in this area. Similarly, the evidence will not support any conclusion that the pilot committed a gross departure from proper piloting techniques by attempting to conduct the final portion of the approach through visual reference to the ground. The board, therefore, is unable to determine the reason for the aircraft's departure below the approved minimum descent altitude.

Captain Kenneth C. Huber, age 42, had a total piloting time of 15,335 hours, 12,830 in DC-3 aircraft. He was properly certified, rated, and checked. He was unusually well experienced, currently, in landing scheduled Frontier Airline's DC-3s at the Miles City Airport.

First Officer Daniel H. Gough, age 25, had a total piloting time of 3,539 hours of which 1,355 hours had been as first officer in DC-3s. He was properly certified, rated, and checked. Captain Huber and First Officer Gough had flown together, as a crew, on numerous Frontier flights into the Miles City Airport.

Stewardess Dorothy Ruth Reif, age 22, had been employed by Frontier Airlines since 13 October 1963. Passengers aboard the flight consisted of one company employee and one paying fare passenger.

The contention of many Frontier pilots was that the aircraft had descended into an area of low-level, severe icing that can make an aircraft uncontrollable in a very short time. Captain Dick Ure reported similar conditions at the same location several months later. The ice accumulated so suddenly, he was unable to climb out of it. With ice obscuring the windshield, he had to open the side window for any ground reference. Unable to check the descent, he commented, "I was gratified the runway was beneath me when the aircraft ceased flying. Ice had to be chipped from around the main entrance door before they could open it.

In later years, the contention of some crews was the possibility of a microburst. An intense column of downward rushing air that extends to the surface and then mashes out in all directions. When the aircraft descends to the runway in a landing configuration, and while flying at lower airspeeds should it enter this rush of air, it could possibly experience a large

increase in airspeed, then at a critical point the head wind may suddenly become a tail wind that destroys the lift on the wings. This sudden shift in the wind causes the aircraft to make an involuntary descent—possibly with cataclysmic results.


To the inexperienced pilot, the mountain empire presented an adverse geographical area that Frontier pilots flew daily. Pilots flying in the high, rarefied air continually had to contend with mountain waves, rotor clouds, and extreme down drafts on the lee side of mountain ranges. This was the only fatality in the forty years of Frontiers existence involving a paying passenger in scheduled service.

-0-

Many thanks to Frontier Airlines pilot Tex Searle and his publishers for permission to excerpt and re-print this chapter from his wonderful memoir, THE GOLDEN AGE OF FLYING, which is available from fine bookstores and the internet. It is a wonderful volume about a bygone era of American aviation.

The Golden Years of Flying - As We Remember

FRONTIER AIRLINES 1946 - 1986 BY CAPTAIN TEX SEARLE




DC-3 Pilots Share Their Tales of a Remarkable Era of Flight

Here is the legacy of an earlier day in aviation history, flying the Rocky Mountain region with the Frontier Airlines pilots who achieved the best safety record in civil aviation, a record based upon the most stringent measure of the number of takeoffs and landings while flying extreme conditions. Frontier Airlines (not to be confused with the company currently using the Frontier name) flew from 1946 to 1986. In her early days, crews hand-flew DC-3s over the high Rockies, in and out of small airports hidden deep in mountain canyons with a approaches often referred to as "black holes" due to their almost ominous darkness and lack of reliable visual references. Relating their first-hand experience of flying through "tornado alley" without radar, flying in canyons of sodden clouds while lightning displays an explosion of highlighted pageantry throughout the heavens, the pilot storytellers in *The Golden Years of Flying* invite you into the cockpit for a lighter dimension, too—you will surely enjoy the hijinks and hangar tales of their shared experiences.

As a retired FAL captain himself, the author points out that "Flying the DC-3 was just about the best thing that could happen to a man."

"...Stories of a remarkable airplane and the people who had the privilege of sharing experiences during this exhilarating chapter of commercial aviation."



—Captain Jack Schade, FAL Retired



ISBN: 1-56027-680-0
978-1-56027-680-7
#ASA-GYF

Aviation Supplies & Academics, Inc.
2063 Lind Road SE
Norwalk, Washington 98518
1-800-ASA-FLY • www.asa2fly.com

ASA
The Golden Years of Flying - As We Remember
FRONTIER AIRLINES 1946 - 1986
SEARLE
ASA-017

**The Golden Years
OF FLYING**

As We Remember

FRONTIER AIRLINES 1946 - 1986

CAPTAIN TEX SEARLE