

MARTEN HARTWELL STORY FROM THE BOOK, *FLYING TO EXTREMES*

Revised edition,
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By Doninique Prinert
Author of *Flying to Extremes*

Editor's Note: Doninique Prinert obtained his Canadian commercial licenses in 1965, and his ATR in 1970.

He flew for a year along the B.C. coast, and then for Gateway Aviation, in Yellowknife (NWT), from 1966 to 1971, with Beavers, Otters and Beech 18s, on floats, wheels and skis. Between flights, he obtained an engineering degree from UBC and an MBA from McGill.

Dominique became VP of Nordair (Montreal) in the seventies, and joined Canadian Airlines (Vancouver) as VP Marketing in 1987. He then spent five years in Africa, turning-around an managing the national airline Air Tanzania. He obtained his helicopter license at 70. In 2021, he published *Flying to Extremes* (Hancock House), describing his adventures as a bush pilot in the Arctic during the late sixties.

In Flight USA is pleased to publish the following is an excerpt from his book.

On Nov. 8, 1972 at 3:30 p.m., in other words at nightfall, a twin-engine Beechcraft 18 capable of carrying about ten passengers took off from Cambridge Bay, a small Inuit community on Victoria Island, one of the main islands in the Arctic, for a medical evacuation to Yellowknife. It was a typical winter emergency flight, with no visibility or landmarks under the dull grey snow of the evening and during the night, and not really legal, given the conditions. There were 900 kilometres of frozen tundra and forest to cross.

At 7:30 p.m., the ambulance was waiting at the foot of the Yellowknife control tower. The plane was late. No response to radio calls. At 8 p.m., the alert was given. The search would last over three weeks, in temperatures ranging from -20 to -30°C. The pilot, Marten Hartwell, 47, was from West Germany. He had flown a little in the Luftwaffe towards the end of the war, but his Canadian licenses were recent. He had just over 2,000 hours of flight time, including about 30 hours in the twin-engine Beech 18 aircraft, and only knew the Canadian Arctic regions where he had flown over the last two summers. He had no instrument rating and little night flight experience.

The aircraft had just more than six hours of autonomy at 250 kilometres per

hour, but was not certified for instrument flight and was not equipped with a wing de-icer. It had only basic navigation instruments: a precessing gyrocompass, two radio compasses, and a magnetic compass that was of no use so close to the pole. A C4 compass without precession that could actually steer a steady course for several hours should really have been onboard all aircraft flying in the Arctic, at least during the winter, but had only been installed in one or two Gateway Aviation planes, and not on the Beech 18.

In Cambridge Bay, where the medical evacuation began, nurse Judy Hill was a 27-year-old English woman who had just spent a year in the Inuit village of Spence Bay. She was travelling with her two Inuit patients who urgently needed to be hospitalised: a 25-year-old woman, Némée Nulliayok, who was about to give birth, was suffering from serious complications. The 14-year-old boy, David Kootook, was believed to be having an acute appendicitis attack.

That evening, two Gateway Aviation pilots just happened to be in Cambridge Bay. Marten Hartwell, with his old Beech 18, CF-RLD, had been trying to get to Swan Lake near the Arctic coast – not far from the Perry River – for two days in a row, but could not reach the camp due to bad weather. Ed Logozar, an instrument-rated pilot with a very modern Twin Otter fitted with wing de-icers and a C4 compass to correct precession, had also arrived from Yellowknife, but had to leave the next day for Coppermine with two Water Resources men and all of their gear. It was Ed who'd gone to Spence Bay to pick up the two Inuit patients and their nurse Judy Hill. Marten and Ed spent a while discussing which one of them would make the trip to Yellowknife, and Marten eventually decided to do it himself despite his lack of qualifications and the poor equipment of the Beech 18 for a night flight in wintertime. One of the deciding factors was that Marten was stuck in Cambridge Bay anyway because of the bad weather around Swan Lake, and could therefore use his plane to go elsewhere that night, whereas Ed was scheduled to fly to Coppermine the next day with no weather restrictions. Another reason was that the Twin Otter only had a 1,000 km range, enough to reach Yellowknife by day and in visual flight conditions, but not sufficient for instrument flying with a requirement to provide for an alternate field and an additional fuel reserve sufficient for 45 minutes of flying.

Between Cambridge Bay and Yellowknife, the only landmark along the way was the small radio beacon by

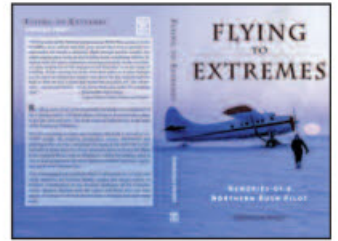
Contwoyto Lake. It was low in power and could only be picked up by a modern and sensitive radio compass. I had on occasions actually seen this small radio beacon by Contwoyto Lake before my radio compass even picked it up. Moreover, at night and especially in the evening, radio compasses go haywire because of electromagnetic disturbances in the upper atmosphere, which further complicates the issue.

The Beech 18 that Marten Hartwell was flying should have carried two survival kits, but only the remains of one of them were found. Each kit contained six 200g cans of corned beef, four packet-soups, 12 stock-cubes, 350g of rice, the equivalent of five or six powdered potatoes, glucose pills, and a dozen small packets of raisins – enough for four people to survive in the cold for ten days or so. A small battery-powered emergency transmitter automatically activated in the event of an impact and transmitted signals on the distress frequencies, assuming the pilot had activated it before take-off. The transmitter could also be switched on and off manually.

One might wonder why such a long flight, at night and in known icy weather conditions, was undertaken in the first place. The answer is simple: the passengers' conditions were critical, and somebody had to fly the patients to a hospital. Marten Hartwell's mistake was to accept the flight when he had little night flying experience, no instrument rating, and was flying an aircraft that was not equipped for night flight, let alone for instrument flight. The passengers should have been taken to Yellowknife by Ed Logozar in the Twin Otter, despite the plane's slightly short range. But above all, the Cambridge Bay clinic should have checked that there was no alternative solution. On that day, a DC3 from Yellowknife on a regular weekly flight was scheduled to arrive in Cambridge Bay three hours later: it could have taken the nurse and her two patients south without any problem.

The Beech 18 Goes Missing, Search Ensues

The Beech 18 from Cambridge Bay expected by the ambulance in Yellowknife thus didn't arrive and couldn't be reached by radio, so a search was initiated that very evening, on Nov. 8. A military Hercules began an overnight electronic reconnaissance flight along the planned route: flying at 7,000 metres over eight hours, it did several trips between Cambridge Bay and Yellowknife, following a parallel route



Flying to Extremes By Doninique Prinert
(Photo provided by Coldwater Communications)



Flying to Extremes By Doninique Prinert, tells the story of Marten Hartwell piloting a Beechcraft 18, as it becomes lost in the Arctic in 1972. (Photo provided by Coldwater Communications)

every time, at 30-kilometre intervals. No signal from the emergency transmitter was picked up. The next day, other Hercules continued the electronic reconnaissance mission. The weather was atrocious: freezing rain, snow, fog and blizzard.

Later, the weather improved and a visual search began, along parallel 10-kilometre-wide strips at night at an altitude of 1,500 metres, in search of rocket flares or fires; and along 1.5-kilometre-wide strips during the day, at an altitude of 150 metres.

The search was initially concentrated along the direct route that the aircraft was to follow, within a narrow widening strip with Yellowknife at the bottom and Cambridge Bay at the top. This was the "primary" area where the probability of finding the aircraft was highest. A fire was spotted at night in this area but, the next day, it was found that it had been lit by a small group of Inuit who were caribou hunting. Once the primary area had been screened, at the end of the first week, the search shifted a wider strip, into the secondary and then tertiary areas. This took another week. The search team then initiated a more detailed examination of specific areas and then began looking for the wreckage in the hills along the Arctic coast, as well as exploring the forest near Yellowknife. Five Hercules, five Twin Otters and many civil aircraft took part in the search. Helicopters were on standby in

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Yellowknife.

Every day, some 50 civilian volunteers were employed as observers. In the Hercules cockpit, next to the two pilots, one observer would look to the left and the other to the right, up to about one kilometre away from the aircraft. In the back, lying on mattresses with their heads hanging out of the plane, three other observers would look below. They were secured with a harness, as the cargo door was wide open. I know this because I spent a whole day on my belly looking for my colleague Marten and his passengers with my wife, our heads out in the air. The pilots, mechanics, navigators and observers were all connected through an intercom system. Observers took turns every 20 minutes then rested for 40 minutes, during the eight hours of each flight. Paratroopers aboard the Hercules were ready to jump with rescue equipment.

Public interest, as always in these cases, was periodically revived by unconfirmed discoveries. On the third day of the search, for example, three Hercules in the Contwoyto area picked up distress signals. The signals, heard at 9:48am, lasted one second. At 1pm, further signals were heard for five seconds. Once again

there was hope. But the emissions were too short to establish a position. Laboratories in the south identified five possible sources based on the position of the aircraft that picked up the signals, but the Beech 18 was nowhere to be found. After that, no further signal was picked up. Often, an aircraft would think it had seen something, but it was just a reflection on bright ice, or the shadow of a rock. Two psychics called from England, but their kind advice did not help find the plane.

On 27 November, the search was called off after 19 days and 950 flight hours. Two hundred thousand square kilometres of tundra and forest had been covered. The government had spent about \$2 million on the rescue mission. Meanwhile, Gateway Aviation had purchased a new light twin-engine plane, with the compliments of the insurance company.

The Ministry of Transport needed answers: who was to blame for this accident? There was probably shared responsibility: did the nurses and doctor in Cambridge Bay lead the pilots into believing that it would be criminal to abandon two critical patients? They claimed not. And one could hardly blame

them for having only a faint idea of the issues surrounding air navigation in the Arctic in winter and at night. The Beech 18 had had landed in Cambridge Bay from Yellowknife that morning and was there by chance. On the face of it, there was therefore no reason why that same plane couldn't make the trip back a few hours later.

So, who's responsible in these cases? Certainly not the airlines, which are essentially only in charge of maintaining the aircraft: if a pilot violates rules of the air at the request of his company or passengers, or if he makes a pilot error due to fatigue or to the stress of a particularly dangerous flight, he is responsible: he risks his licence, his job, and legal proceedings if there are victims. When he takes off with the intention of carrying out the planned flight, the pilot accepts the aircraft as it is, and confirms that everything is up to standard: the airframe, engines, instruments, radios, and cargo. It is also his responsibility, prior to departure, to ensure that all aircraft documents are up to date, and that the mandatory mechanical inspections every 50 or 100 flight hours have been recorded in the logbook, which incidentally is no guarantee that they have actually been carried



Author Doninique Prinnet

(Photo provided by Coldwater Communications)

out. He accepts take-off runways that are too short or badly paved, engines that are known to occasionally run rough or break down, instruments that fail or freeze, and radios that don't work. He also accepts the weather conditions expected during the flight, and the landing strip on arrival: a sandbank on a river, a more or less frozen lake, the crest of a moraine of large rocks, or dull grey tundra covered in snow, with no shadows and therefore no visible relief.

Editor's Note: In Flight USA will publish the second half of this story next month. Readers can find the book, *Flying to Extremes*, on Amazon.