



denly went black. "What happened to all the instruments?" Pearson asked aloud. What had happened was that the starboard engine had failed also, terminating the electrical power.

Airliner becomes a glider

Quickly, the pilot activated the emergency battery and dropped the ram-air turbine outside the plane's belly to provide the power for minimal hydraulic control. Without enough power for the computers, Pearson was now guiding the most sophisticated airliner in the world with only an altimeter, airspeed indicator, horizon control and magnetic compass.

To the passengers, hope seemed to fail along with the engines. But they were not yet out of luck. Fate had dealt them a trump card. Their pilot, years earlier, had been a glider enthusiast.

By the time Flight 143 had descended to 8,000 feet it was still 27 miles from Winnipeg. The aircraft was losing altitude at the rate of 2,000 feet per minute

and could not reach the airport. An air traffic controller offered Pearson an alternative. He was only 12 miles distant from an abandoned Royal Canadian Air Force base outside the little town of Gimli.

Copilot Maurice Quintal had trained at Gimli and knew that its 6,800-foot runway was adequate.

"Okay," Pearson said, "it's Gimli."

He turned around, heading back up the western shore of Lake Winnipeg. The airplane was not flying; rather, it was in a controlled fall. There was time to reach Gimli, but little time for adjustment.

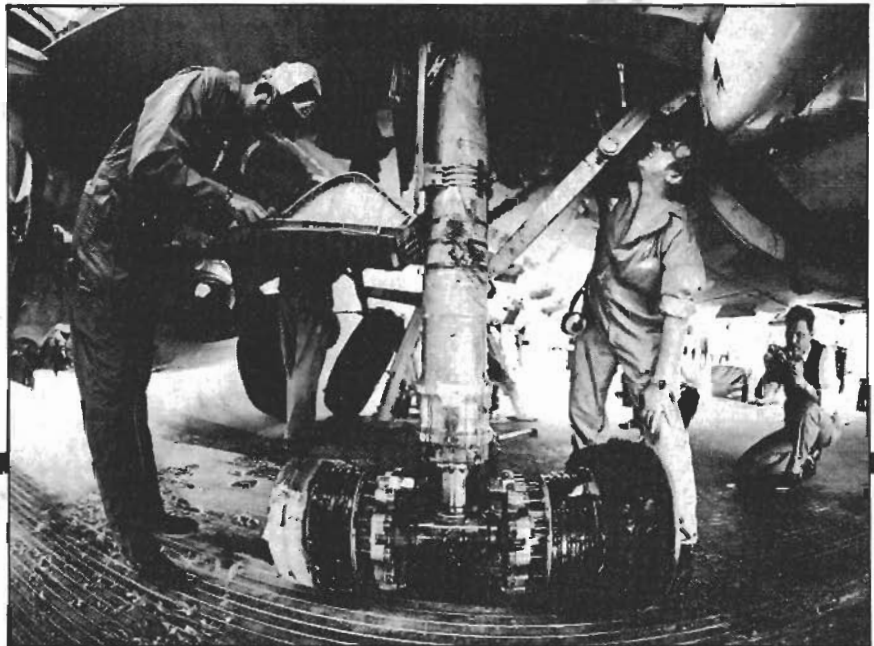
They came in on a sharp, wide left-turn leg. Some of the passengers screamed, thinking the plane was out of control, but the opposite was true. Pearson was sideslipping to lose altitude in preparation for his one and only chance to land.

Gimli, no longer in use by the Air Force, is now a drag strip. An old taxiway today serves as an airport for small planes. But only members of the Winnipeg Sports Car Club were on hand this Saturday evening

Frontier pilot Duane Cook (below) drew applause after bringing in a Boeing 737 with two tires that had blown on takeoff. The plane had 102 persons aboard. Passengers waited on the tarmac (right) to cheer him. After the incident, an inspection of the plane showed only minor damage to the wheels (right, bottom) and no damage anywhere else. Cook had to circle the airport for two hours to consume the fuel supply.



PHOTOS BY ANTHONY SAUAU, DENVER POST



at twilight, preparing for Sunday's races. They looked up to see the frightful vision of a 767, heeled over nearly on its left side, silently homing in on them. As it straightened, leveled and descended, they scattered in terror.

The main gear touched down 800 feet past the threshold of the runway. The front settled down moments later, its unlocked nose gear collapsing and sending the plane and passengers screaming into a skid. The 767 shrieked down the runway until it halted just short of a cluster of house trailers.

Pearson telephoned Air Canada headquarters and reported calmly that there were no serious injuries. The realization of his accomplishment still had not set in—nor had the fear. Maybe tomorrow, he thought, his legs would collapse.

Belly landing in Miami

Having your life snatched from the jaws of disaster by a skillful pilot and crew rarely leaves the passengers as speechless as it does the men on the deck. There were cheers and plenty of words of gratitude on the tarmac Feb.

15, 1983, after pilot R.R. Curti brought in a Boeing 727 whose landing gear had failed to retract fully after takeoff from Palm Beach, Fla., on a nonstop flight to New York.

"We made it!" exclaimed a jubilant Gail Nemec of West Palm Beach, one of 67 passengers whose lives were saved by the quick thinking and steel nerves of the pilot. "It was smooth. I never thought an emergency landing could be so smooth."

Curti had kept his passengers calmly informed as he brought the plane in for a belly landing at Miami International Airport. The jet sent out a shower of sparks as it scraped the runway, which was foamed down to prevent a fire. There were no injuries, no fire erupted and only minimal damage was done to the plane's underside. Not only did the passengers gather by the emergency chutes of the plane to give Curti a round of applause, but President Reagan telephoned him the next day to

congratulate him for his sharp flying.

A pilot's brain must make instantaneous judgments that can mean life or death for all on board, and for this reason it cannot short circuit with fear.

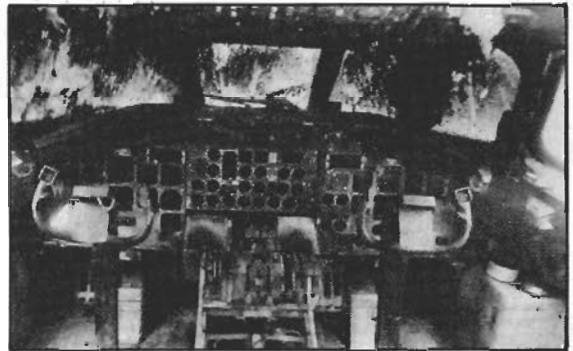
Consider the case of Captain Adam Kagel. On Sept. 22, 1981, he was in command of Eastern Airlines Flight 935, a three-engine L-1011 jumbo jet en route from Newark, N.J., to San Juan, P.R.

In the innards of No. 2, the tail-mounted engine, the low pressure location-bearing failed soon after takeoff. Hot oil splashed onto the fan shaft and also onto the airborne vibration indicator, which, in turn, failed to warn Kagel that the engine was breaking apart.

Just as the airplane ascended to 10,000 feet a severe explosion jarred everyone on board. A section of the fan module in No. 2 slammed into the fuselage, slicing into one of the unoccupied lavatories. Flying debris shot holes through the stabilizer. To Kagel, it felt



Flames engulfed the Air Canada DC-9 after its emergency landing in Cincinnati (left). Although 23 lives were lost, an equal number were saved after pilot Don Cameron landed the plane without instruments. He had trouble finding the forward exit (left, bottom) in the smoke. However, Cameron kept his wits even as the flight deck began to burn. Extent of the damage to the cockpit is seen in the photo (below), which was taken after the fire was extinguished.



PHOTOS BY WIDE WORLD

as if he were flying a B-17 over Germany and had just taken a severe hit. He wondered if the tail might fall off.

The plane shivered. The left wing sank and the nose heeled over. Kagel realized that for one brief moment he had been shocked into inaction. It was the only such moment he could afford. He quickly reduced thrust in the two remaining engines. That calmed the buffeting somewhat and allowed him to keep the plane fairly stable as he assessed the damage and reported to the 190 frightened passengers, who now looked to him for deliverance.

The job was a tough one. Three hydraulic systems had failed. Only one system remained operative and Kagel did not know the extent of damage to it. He had no outboard ailerons, no rudder control and no certainty that the shattered tail section would hold together.

One slow circle

Flight 935 was vectored over the Atlantic Ocean to dump fuel. Then it made one slow circle to the right and headed toward John F. Kennedy International Airport.

Kagel was flying by the seat of his pants now. Most of his automatic landing aids were inoperative. He found it increasingly difficult to handle the plane at lower speeds.

At 300 feet he encountered a strong crosswind that pushed the nose to the left. Lacking rudder control, Kagel tried to correct with inboard ailerons, but the damaged plane "crabbed" farther to the left.

Options were few. Kagel could abort the landing, circle and try again, but the necessary engine thrust would strain the battered airplane. He could go in at this awkward angle and risk missing the runway. Or he could find some way to straighten out the nose. And whatever his decision, it had to be made now!

Instinctively, his hand moved to the throttle. He pulled more power on the port engine, swinging the nose forward only seconds before touchdown. The plane bounced far down the elongated runway until it came to a quiet, uneventful stop.

Was he scared? "Oh, yes!" Kagel said later. "But the key is having hold of

the plane, knowing that *you're* in control."

To maintain control in a dangerous situation, the pilot has to keep his eyes on the trouble, the potential landing place and the passengers all at once. Frontier Airlines Flight 194 from Los Angeles to Denver had 102 people aboard on Aug. 5, 1982, when two of the Boeing 737's six tires blew on take-off. The craft still had good wheels in the nose and on the right side.

Unlike Kagel, pilot Duane Cook couldn't dump fuel over the ocean. Instead, he continued to Denver and circled Stapleton International Airport for two hours to burn off fuel and lighten the craft's load. With First Officer Jim Rimer watching the flight indicators, Cook finally brought in the plane, maintaining a delicate level on the wingspan to keep the jet from tipping violently on touchdown.

Frazzled nerves were among the most serious problems reported by the passengers. As in the other cases, they stopped to applaud their pilot.

We speak of "the pilot" in a collective
(Please turn to page 174)

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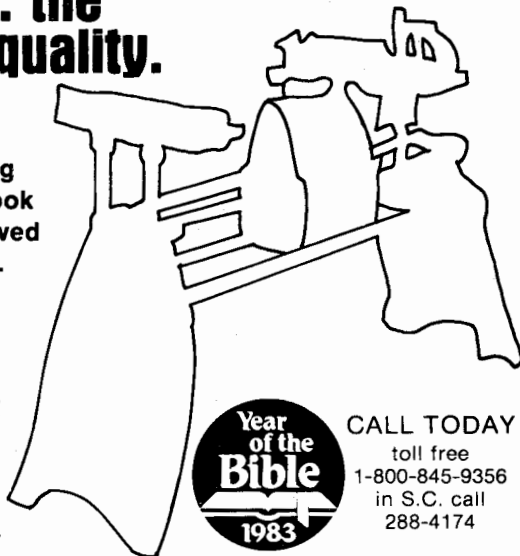
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WE MADE IT!

(Continued from page 81)

sense. Flying an airliner is a team effort, never illustrated better than in the cockpit of a Reeve Aleitoam Airways L-188 Electra turboprop en route from Cold Bay, Alaska, to Seattle on June 8, 1983. Captain James Gibson, First Officer Gary Lintner and Flight Engineer Gerald Laurin were in the cockpit.

At 20,000 feet, the propeller suddenly flew off of No. 4, the outboard starboard engine, and sliced into the belly of the fuselage. The cabin floor buckled. A few passenger seats—fortunately unoccupied—tilted toward the hole in the floor.

The plane dipped into a falling right-hand turn. Gibson pulled at the controls, but they wouldn't budge. He tried to throttle back the port engines to overcome the imbalance of power, but there was no response. He reasoned that the collapsed cabin floor had jammed the cables that ran through the lower level of the fuselage. All the controls were frozen.

Gibson activated the autopilot, hoping that its mechanical strength could overcome the resistance. The aircraft slowly leveled off, although engine speed remained uncontrollable.

The pilot reported honestly to the passengers, explaining the control problems. He continued his reports

periodically, as the drama stretched out over the next six hours. They turned back toward Cold Bay, reversed course to King Salmon, Alaska, and finally headed for Anchorage, where emergency equipment was plentiful. The problem was that the plane could not land on autopilot.

Gibson hoped that the mechanical system would slowly wear grooves in the debris that rested on the control cables. Finally, he disengaged the autopilot and discovered that when he and Lintner—and sometimes Laurin, too—applied their muscles to the stick, they could, indeed, force some movement. Gibson took the microphone and told the exhausted, frantic passengers that they were ready to land.

Gibson shut down No. 2 in order to lose altitude. He and Lintner forced the flaps down and manned the stick in tandem as Laurin navigated. They pushed and pulled at the controls, managing to bring the plane down in a long, shallow glide. As the wheels touched, they shut down the remaining engines.

Careening down the runway

Impact was unexpectedly harsh. The brakes were frozen on, causing the tires to blow. The plane careened down the runway, using up the available distance. The pilots could do nothing but

manhandle the rudder controls to keep a straight course. Finally, at the far edge of safety, the airliner bounced off the tarmac and nosed over easily into a ditch, its tail pointing up. Miraculously, all on board escaped without injury.

"A man would be a fool not to be scared in that situation," Gibson said afterward. "But we did what we had to do."

"Tremendous job," said President Reagan during a special White House ceremony in Gibson's honor.

Pilots stopped wearing silk scarfs eons ago, and the computerized deck has taken some of the romance out of the pilot's image. But a well-trained and experienced crew, and a pilot who can think quickly in an emergency, are more than a luxury.

A case in point was the fiery landing of an Air Canada DC-9 at the Cincinnati airport last June 2. The landing ended in the deaths of 23 aboard the Dallas-to-Toronto flight, but eyewitnesses said it was a miracle that 18 passengers and five crew members survived. —

Jet fills with smoke

The incident erupted quickly as the jet began to fill with smoke in flight. All electronic indicators flickered and faded as pilot Donald Cameron struggled to bring the jet down safely. The fire originated in a lavatory, and the crew assumed it was caused by a cigaret. But it was later determined to have been caused by an electrical malfunction.

"I had no way of accepting directions from air traffic controllers," Cameron told a National Transportation Safety Board hearing. "I was unable to accept any readings." Still, with verbal instructions from air traffic control, and with help from a nonelectrical position-indicator, he managed to land the jet within minutes, allowing half the passengers to scramble out. When the smoke had cleared, the plane was burned out.

During the incident, Cameron had his hands full simply landing the craft. He had to rely on shouted reports from the crew on the condition of the plane inside the smoke-filled passenger section. Smoke reached the cockpit, too, and Cameron put on a pair of goggles. The smoke was so thick by the time the jet touched down that Cameron could barely find the cabin exit. The goggles may have been the main factor in saving 23 lives.

Airline pilots are often taken for granted. They're sitting behind a closed door or drawn curtains talking in monotonous tones to the folks down below. Their world is flashing lights and changing numbers.

But to anyone who has faced a potential disaster, the pilot is bigger than life. Sometimes, he's life itself. **PM**