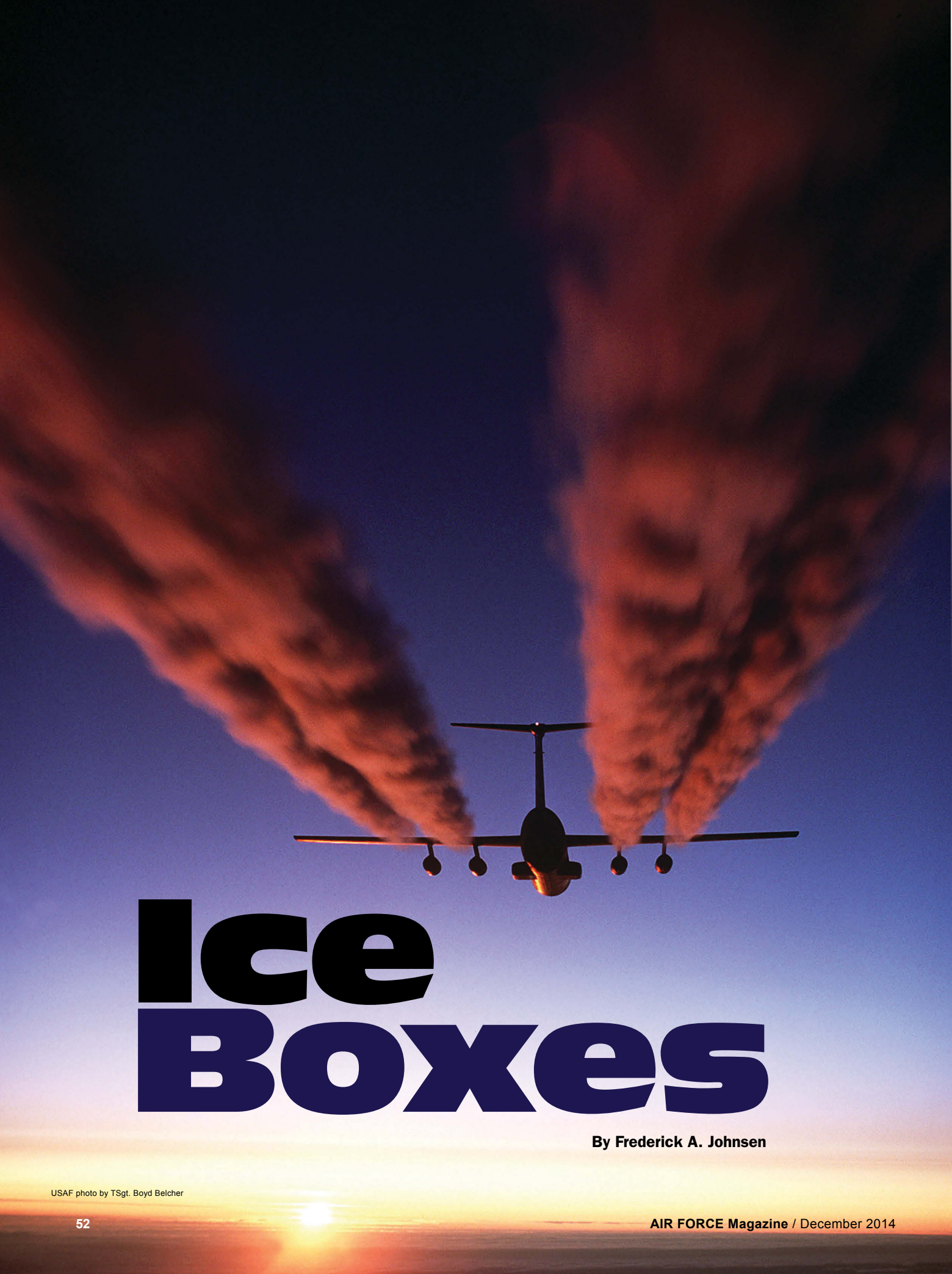


Ice Boxes

By Frederick A. Johnsen

USAF photo by TSgt. Boyd Belcher

In 1983, a new unit was tasked with delivering supplies to Antarctica and the South Pole.

Parachute-laden crewmen standing near open doors of a C-141B Starlifter during a midwinter Antarctic airdrop in 1983 were told they could pull the D-ring ripcord if they fell overboard—or just not bother. The chance of being safely recovered in the darkness and 100-degree-below-zero temperatures was practically nonexistent.

The requirement for year-round habitation at the South Pole exceeded the ability to resupply the southernmost outpost by traditional overland means in the 1980s. The Air Force's Military Airlift Command used airdrops to fill the need in the middle of the Antarctic winter.

Landing was not an option on the darkened snowbound continent for several months of the year. But C-141B Starlifters, refuelable in the air, could extend their reach to the South Pole from Christchurch, New Zealand.

The mission had been flown before by another wing, but the 62nd Military Airlift Wing of McChord AFB, Wash., brought something new to the party when it got tasked for the mission in 1983. With only one small roll-up paratroop door on each side of the Starlifter's fuselage available for container delivery system (CDS) bundle drops over the South Pole, the McChord crew spent the spring of 1983 perfecting a system of baffles for the troop doors to help keep CDS bundles from wedging or moving prematurely.

That year marked the first time two separate drops were set for McMurdo Station, on the near edge of Antarctica, and would involve the largest number of CDS containers dropped on a single pass over McMurdo.

As they prepared for the Antarctic adventure, the McChord crew knew one of the 62nd Wing's Starlifters, tail No. 65-0229, had a pedigreed past as the first C-141 to land on Antarctica in November 1966, a time of the year—spring—when landings were possible. This C-141B was requested in the frag order as the Antarctic bird for 1983's midwinter sorties.

Mission commander Maj. John A. "Tony" Kent Jr. had made an Antarctic airdrop previously. Some on his 1983 crew had not, and they were banking experience this year for the future. The Starlifter landed on a cold, damp Christchurch runway on June 16. The first Antarctic airdrop was scheduled for June 21. In the meantime, the crew configured the C-141 for the first airdrop and spent time in the hotel adjacent to the airport, poring over airdrop data and assessing various scenarios that could beset the risky flights ahead.

The task was not without peril. The Starlifter had to rendezvous with a KC-10 tanker to complete the mission, and early on, the C-141 team on the mission the author accompanied decided not to open the Starlifter's huge petal doors over the South Pole, lest they freeze in position. In fact, the concern was so great that the crew pre-emptively planned to use only the flush troop side doors when over the distant South Pole station.

The drag of the huge extended petal doors would increase fuel consumption to the point where return to Christchurch might be impossible. For the dual mission to McMurdo and the South Pole, the KC-10 Extender took on an additional refueling task dictated by unusually frigid conditions. The tanker would refuel the C-141 just before the Starlifter began its descent to airdrop at McMurdo. The C-141 would still be in its closed-door configuration for this refueling. This was important because, if the doors stuck open over McMurdo, it was unknown whether the C-141 could, in its slow airdrop state, conduct an aerial refueling.

But that refueling just before an airdrop added its own variables to the crew's planning. The Starlifter would be over McMurdo for the drop at a weight of about 320,000 pounds—significantly heavier than the maximum published airdrop weight of 273,000 pounds. MAC headquarters issued a waiver for the heavyweight airdrop over McMurdo. But the extra weight meant the normal airdrop speed of 150 knots calibrated airspeed (172.6 mph) was perilously close to stalling speed for the loaded C-141B. The crew's answer was to make the McMurdo drop at a faster speed of 165 KCAS (190 mph).

Nor did this end the computations and calculations necessary to pull off this unorthodox airdrop mission. Warehouse-style conveyor rollers, including 90-degree curved sections, were laid on the Starlifter floor to quickly allow crew members in the back of the C-141 to position bundles near the doors in time for the green light drop sig-

Left: A C-141 prepares for an airdrop over Antarctica. Here: A KC-10 greets the C-141 the author was aboard, for this 1983 mission. Two midair refuelings were necessary to complete the mission.

Photo by Frederick A. Johnsen

USAF photo

Unloading the first C-141 to land at McMurdo Station, Antarctica. C-141s were used for resupply missions from the 1960s until 2005.

nal over the South Pole. Drops would use 26-foot ring slot CDS parachutes that up to then had only been used aboard Starlifters experimentally. One of the mission navigators, Lt. Col. Harold Blagg, had to take the 500-pound weight of each CDS container, plus the faster 165 KCAS airspeed, and modify the existing experimental airdrop tables for the parachutes being used.

This information was vital for deriving the computed air release point. The CARP allowed the crew to time the bundles so they landed within the drop zone—especially important in the Antarctic winter darkness where a mild day was considered 100 degrees below zero Fahrenheit.

The crew selected for the 1983 Antarctic airdrop included airmen with extensive C-141 experience. They gave weight to the issue of petal door freezing. Twenty-second Air Force sent a message instructing the crew to drop all of the CDS bundles—even those intended for the South Pole—over McMurdo, using the side troop doors if opening the petal doors became a problem.

Aircrew List

McChord 1983 Midwinter Antarctic Airdrop Crew:
Maj. John A. Kent Jr., mission commander
Lt. Col. Jerry L. McKimmey, pilot
Maj. William J. Larson, pilot
Col. Roger R. Utley, pilot
Lt. Col. Harold Blagg, navigator
Lt. Col. Richard D. Paprowicz, navigator
1st Lt. Steven F. Baker, navigator
CMSgt. Billy C. Chramosta, flight engineer
CMSgt. Leonard J. Davis, flight engineer
SMSgt. James M. Walganski, loadmaster
MSgt. Michael L. Wright, loadmaster
SSgt. Benhard J. Nesheim, loadmaster
MSgt. Scott A. Ellestad, loadmaster
TSgt. Harold A. Harris Jr., loadmaster
Pete Lochow, 62nd MAW public affairs
Frederick A. Johnsen, 62nd MAW historian

THE ONE THAT COUNTS

The crew discussed other scenarios, too; this was no routine airdrop. Notionally, the crew pondered what might happen if the C-141 were accelerated to tear the drag-producing petal doors off if they were stuck in the open position. This was quickly rejected as unsafe due to the possibility of the petal doors striking vital parts of the aircraft as they departed. Other choices included making a forced landing at McMurdo in darkness or ditching in the frigid ocean on the way back to Christchurch.

A forced landing at McMurdo in winter had uncertain ground rescue prospects, and a winter ditching at sea

Photo by Frederick A. Johnsen

was considered unsurvivable for the length of time it would take rescuers to reach the scene. The heavyweight refueling before McMurdo was the only option that afforded a margin of safety in the event the petal doors froze open.

"There are lots of options," Blagg told the crew June 18 in a planning meeting. "We're just figuring the worst one. That's the one that counts."

Fuel was critical for the long distance return flight from the South Pole to Christchurch. Kent figured 80,000 pounds would be burned on that leg over inhospitable ice and sea. Since the South Pole airdrop required several racetrack orbits to get all CDS containers pushed out the small side doors, the airlifter still needed fuel once over the South Pole. Kent instructed the C-141's flight engineers with dark humor: "Engineers, when we hit 80,000 pounds and we haven't left the South Pole, you start taking crash axes and kill pilots."

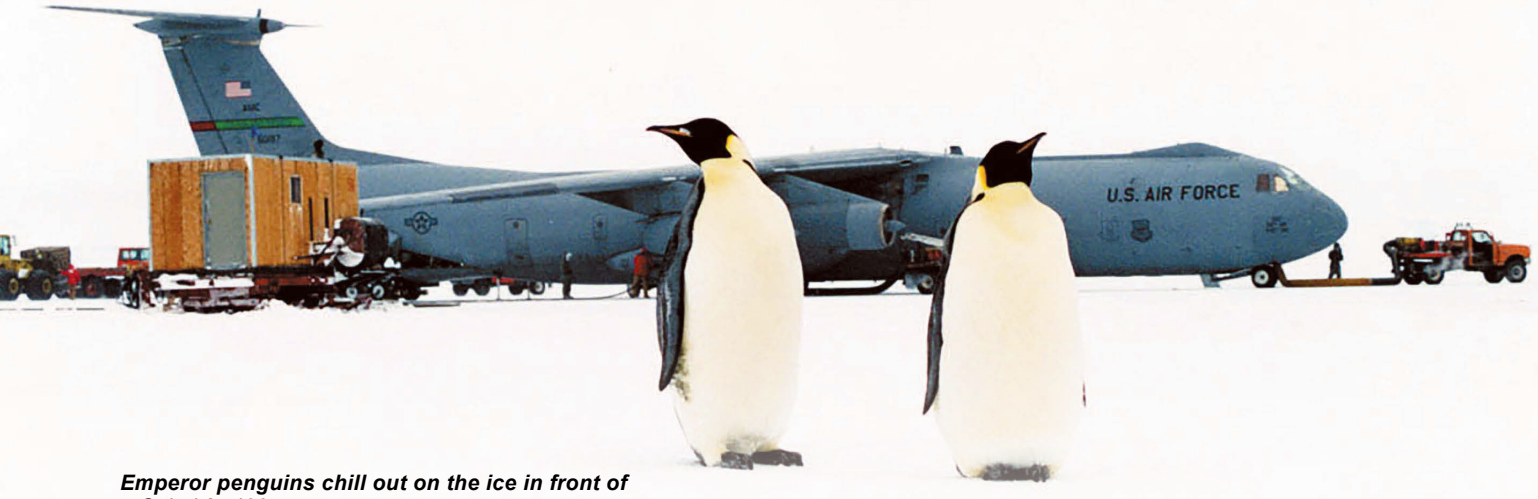
During this planning session, some crew members said they wanted to make the McMurdo drop even if the KC-10 tanker became unavailable. Kent rejected that idea out of hand since a petal door malfunction would preclude reaching Christchurch without the additional fuel only the KC-10 could provide. The logistics of the effort to resupply McMurdo and the South Pole station in the dead of winter were staggering. Kent had ordered one million pounds of jet fuel to be available at Auckland, New Zealand, for the KC-10 to use in refueling the Starlifter.

A loaded KC-10 needed more runway space than Christchurch offered, making Auckland, farther north, the best option. And a KC-10 was needed for the Antarctic missions because it could loiter longer than a smaller KC-135, enabling the Starlifter to refuel twice during the rigorous run over both McMurdo and the South Pole scheduled for June 21.

Back at Christchurch, a US Army load specialist requested the McMurdo drop, off the back ramp, be made with a nose-high deck angle of six degrees instead of the usual five degrees. With a specified increase in the Starlifter's auto throttle setting at the time of the drop, the steeper

Above: The crew pushes out bundles of supplies over the South Pole on June 21, 1983. Here: A KC-10 refuels a C-141B during a return flight to Christchurch, New Zealand, after a supply mission to McMurdo Station.

DOD photo by Garfield F. Jones



Emperor penguins chill out on the ice in front of a C-141 in 1997.

Photo by SMSgt. Bob Pederson

deck angle would result in a tighter ground spread for the McMurdo bundles, making their recovery by ground teams in the frigid darkness easier. Drop altitude over McMurdo was set at 1,000 feet above ground level; over the South Pole, it would be 1,500 feet AGL.

Load crews packed everything from perishables to periodicals in the tall CDS containers. At the base of each CDS box was a cushioning pallet of honeycomb cardboard several inches thick, designed to crush and absorb impact shock when the CDS package reached the ground. Loading for the June 21 mission was complete by June 19.

Early on the morning of June 21, crew members stuffed duffel bags of Arctic survival gear in remaining nooks on the loaded C-141. The fuselage was filled with rows of CDS containers, staged for release first over McMurdo and then for manual ejection from the side doors over the South Pole. In 1983, satellite communications were new enough and scarce enough that a special hatch-mounted SATCOM antenna was put in place of the normal escape hatch on the C-141 in Christchurch. A SATCOM operator flew the mission, using his radio gear to communicate with the outside world from the airspace over Antarctica.

Starlifter 0229 launched into the darkness at 4:11 a.m. local time. When still 90 minutes outbound from McMurdo, the flight engineers began lowering the cabin temperature to preclude any drastic shock when the petal doors were opened for the first airdrop of the day. Soon the chemical toilet froze in the aircraft's lavatory. Crew members who would perform the airdrops began donning Arctic gear.

THIRTEEN SECONDS HERE

About six hours after leaving Christchurch, with petal doors swung open, the Starlifter released 15 tons of supplies in an instant as power was notched up to expedite the rearward slide of the CDS bundles on the roller tracks. Crew members crowded atop the South Pole CDS containers at the front of the cargo bay to witness the rapid exit of the McMurdo bundles amid the characteristic roar and the inevitable cloud of dust, debris, and static lines as the mass of containers plunged out the back of the fuselage like a giant piston. Powering up further, the C-141 climbed from the drop zone. Through the still-open petal doors, McMurdo was visible only as a dim orange light pattern around the drop zone in an otherwise black void.

Unspoken relief settled across the crew as the petal doors hinged shut properly. The South Pole drop was now on.

In the chilled cargo compartment of the Starlifter, riggers rearranged the roller tracks to create a track down both sides of the floor. The South Pole CDS bundles would be pushed on them toward the side troop doors, where 90-degree radius curved roller sections would aid each bundle out the open jump doors.

At about 12:20 p. m. Christchurch time, Starlifter 0229 made its first run over the South Pole drop zone. Two CDS containers exited the left troop door and three were pushed out the right door before the run was closed. On the second pass, intended to be the last, two bundles made it out the left door but none on the right side as one container jammed in the doorway. A third pass was successful and delivered the remaining bundles out the right side door. Even over the howl of the slipstream and the Starlifter's four TF33 jet engines, the bundles' static lines could be heard beating against the fuselage.

The mood was celebratory in the back of the Starlifter as the crew took whiffs of oxygen from a bottle as a precaution for the exertion they had just performed at an altitude more than 10,000 feet above sea level.

Navigation at the pole was complicated by the fact the C-141 crossed many lines of longitude in seconds as it circled the pole, rendering the aircraft's then-state-of-the-art inertial navigation system erratic and unreliable. To get flight headings so close to the South Pole, Kent relied on the attitude heading and reference system. Landing at Christchurch came at 7:08 p.m., nearly 15 hours after takeoff, and the crew partied that night with the earned satisfaction of a tricky job well done.

The final sortie of the midwinter airdrop series called for a full load of CDS bundles to tip off the rear ramp over McMurdo, with a return to Christchurch. Deteriorating weather conditions of blowing ice and occasional loss of radio communications with McMurdo put the mission on hold June 23.

The next day, the entire planeload of CDS containers roared out the back of the Starlifter in less than 13 seconds at the shallower standard deck angle of five degrees. This was done because there had been concerns that the steeper angle of the previous McMurdo drop might have piled containers atop each other.

Mission accomplished. ✪

Frederick A. Johnsen participated in the 1983 Antarctic midwinter airdrop as historian for the 62nd Military Airlift Wing from McChord AFB, Wash. He retired as director of the Air Force Flight Test Museum at Edwards AFB, Calif., to pursue museum, writing, and video projects. His most recent article for Air Force Magazine, *"Warbirders and the Re-enactors," appeared in the September issue.*