TECHNOLOGY

The crash of a C-130 pits a massive rescue force against the deadly Arctic night.

USAF C-5 GALAXY CARRYING 2 MH-60G PAVE HAWKS

BY DAVID HUGHES PM Illustration by Paul Dimare

• Maj. Marvin Macauley turned his C-130 rescue aircraft back toward the darkened crash site and lined up for another pass, flying as low as he dared. In the cargo bay, his brother, Warrant Officer Arnie Macauley, and five other Search and Rescue Technicians (SARTECHs) were suiting up to dive into the high arctic blizzard raging below.

Safety margins were razor thin, but both Macauleys knew the situation on the ground was desperate. An unknown number of survivors lay in the wreckage of another C-130 below, whipped by 30- to 40-knot winds and temperatures that would freeze exposed flesh in 15 seconds.

They'd been down there for 30 hours. Their aircraft, part of a resupply effort called Operation Box Top, had crashed 11 miles short of the lone gravel airstrip at Alert, a top-secret Canadian Forces base near the North Pole. Callsign Box Aurora maritime patrol aircraft photographed the Top 22 broke up on impact, and al- wreckage with an 11-million-candlepower flash.

50

though all 18 aboard survived the crash, flames from spilled diesel fuel engulfed their survival gear. Within hours, a howling blizzard closed in. Cloaked in the Arctic's near-constant darkness, they were almost unreachable by ground or by air.



SOS by satellite

EDMONTON

Word of the crash got out almost immediately. A U.S. SARSAT satellite passing overhead picked up the plane's emergency locator beacon and relayed the signal to a ground station. Within an hour, Canadian Forces

bases in Greenwood, Nova Scotia, and Edmonton, Alberta, were alerted. Leaders began rounding up every SARTECH available, while C-130s were loaded up with extra sur-

vival equipment.

Edmonton's C-130 was the first to launch, carrying 12 SARTECHs and an extra flight crew for the 2100mile trip north. The Macauleys' C-130 took off from Greenwood shortly afterward with a total of 14 SAR-TECHs. Two more C-130s followed from Edmonton-one with an airdroppable survival kit for 40 people and another with a partially dismantled Twin Huey helicopter. Gander and Trenton each sent heavy twinrotor Labrador helicopters lumberSignals bounced off SARSAT sent aircraft scrambling from lower Canada, Alaska, Iceland and Newfoundland. Key players included three C-130s from Edmonton, carrying SARTECHs, supplies and a Twin Huey helo. The first SARTECHs to reach the scene came from Greenwood. Labrador helos couldn't make the long haul from Trenton and Gander, but a mammoth USAF C-5 transport brought two Alaska Air National Guard Pave Hawks within striking distance. Canadair Challenger medevaced the injured back to Ottawa.

CRASH SITE

ing northward, with 4-engine Aurora maritime surveillance planes guiding them from above.

As the air fleet worked its way north, Maj. Donald A. Hanson, who had directed Operation Box Top from Alert, organized an immediate rescue attempt. Volunteers were mustered to drive the base's four Go-Tracksbox-like, 13-ton, treaded utility vehicles—to the crash site.

They made slow progress, but 5 hours after the crash, the Go-Tracks

were within about 2 miles of the wreckage. They got close enough to see flares set off by the survivors, but were blocked by the Sheridan River. They had to turn back, and as they did so, the storm began closing in.

TRENTON

LABRADOR

HELICOPTER

Meanwhile, the first C-130 from Edmonton was approaching the crash site. Warrant Officer Fred J. Ritchie had some of his SARTECHs suit up for a possible jump. They tossed a 3ft. magnesium parachute flare out the back of the plane to see what was below, but its 2-million-candlepower flame was quickly lost among the clouds. Unable to jump, they went on to Alert to change crews and refuel.

JSAF HC-130 HERCULES

BRADOR SCUE HELICOPTER

Grouping and regrouping

Ritchie went inside to talk to Hanson about the plan of attack. He proposed a second overland attempt using two of the Go-Tracks. He would split his SARTECH team and take six men with him while six others stayed with the C-130. Hanson agreed, and four

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CANADIAN FORCES PHOTO

GREENWOOD

THE RESCUE OF BOX TOP 22

drivers volunteered to steer the vehicles out onto the tundra. This time, Ritchie decided, they would follow the coastline, then head inland after crossing the Sheridan River. They plodded through blowing snow that reduced visibility to a few feet, frequently sending a SARTECH to march ahead and warn of trouble.

Hoping for a break in the weather, the Edmonton C-130 took off again and began a round-the-clock vigil over the crash site, dropping flares frequently. Copilot Capt. Eric Volstad made radio contact with the survivors and found them to be fairly cheerful at first. He told them that the weather did not permit SARTECHs to parachute in but a ground party was coming. The batteries of the survivors' radio began to fade and the last thing they said was they could use a little heat. Then they began keying the mike to answer yes or no to questions.

After 7 hours, the ground team ran short of fuel and had to turn back once again, meeting up with a tractortowed fuel container near Alert.

The Guard chips in

Back in Edmonton, Maj. Donald E. Blair, director of the overall Rescue Coordination Center there, was worrying about the helicopter situation. The Labradors were making slow progress, hampered by their need for frequent fuel stops. As his mechanics struggled to dismantle the Twin Huey for the airlift to Alert, he decided to request helicopter support from the Alaska Air National Guard.

The Guard agreed to send two of its new, air-refuelable Sikorsky MH-60G Pave Hawk rescue helicopters from Anchorage to Thule AFB in Greenland, aboard a U.S. Air Force C-5 Galaxy transport. The helicopters would unload there and fly on to the crash site. The Americans also sent two HC-130s, one from Anchorage



SARTECH Master Cpl. Yves Carignan suits up aboard Edmonton C-130.

and one from Keflavik, Iceland.

Meanwhile, Ritchie was in the midst of his second overland attempt and things were getting downright scary. Ice fog obscured the surface, and the lead vehicle's driver suddenly realized that he had driven onto an overhang of snow built up by the wind. Ritchie yelled into the radio for the second vehicle to stay put. As the driver tried to back off the hazard, the snow bridge collapsed and the Go-Track toppled nose-first down a 30-ft. embankment.

One of the SARTECHs grabbed the toboggan in back to keep it from slamming into everyone. A coffeepot sprayed scalding liquid. But the vehicle's fall was cushioned by a snowbank, and no one was seriously hurt. Ritchie's crew drove along the bottom of the cliff as the other vehicle followed on above until the two could rejoin.

After a fuel stop at

OSEO EL

SARTECHs pose with the wreckage after 13 survivors have been airlifted to safety.

Thule, Maj. Macauley and his C-130 were now back over the crash site, taking over for the Edmonton aircraft. With the help of a NAVSTAR Global Positioning System, they began dropping flares over known positions to point the way for the GoTracks. Occasionally, they would head over the crash site to see if conditions had improved.

A break in the weather

The Macauleys were nearing the end of their 10-hour mission before they began to get more than a glimpse of wreckage. The jumpmaster, sitting behind a Plexiglas shield at one of the troop doors, sighted wreckage on several passes. Maj. Macauley then began his run for the first airdrop.

It was a dicey maneuver. Maj. Macauley had to climb to 5500 ft., release a flare, then descend rapidly through the clouds while being careful not to hit the ground. The goal was to reach 1100 ft. above the site before the flare burned out so the SARTECHs could see it when they jumped.

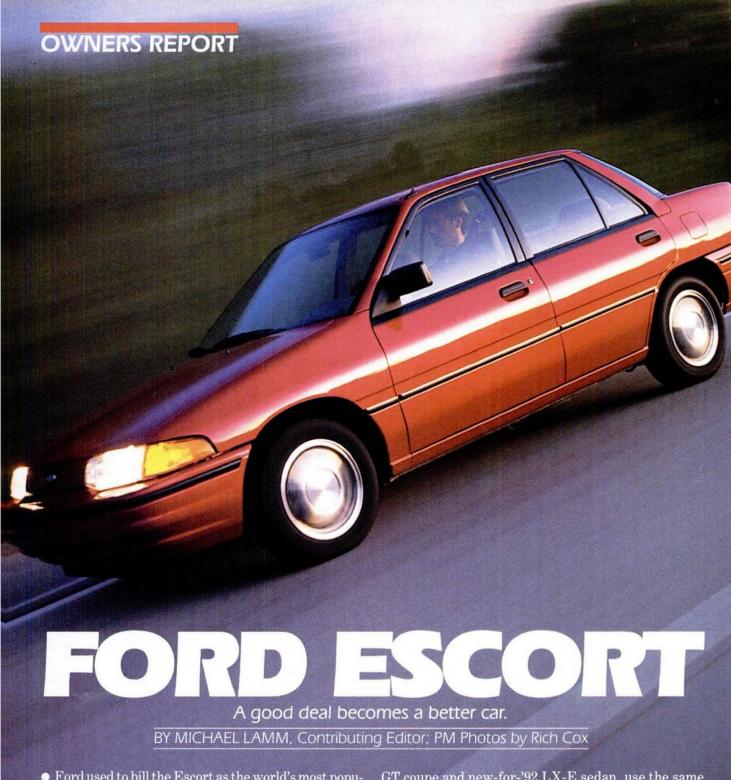
His brother stood in the open troop door, bundled up in the standard SARTECH outfit—quilted "bunny pants," mukluk boots, an arcticweight parka, a wool balaclava and a helmet with its clear visor snapped down. On his back was his main chute which would open on a static line after 4 seconds. The reserve chute was on his belly, and below that a 55-pound first-response medical kit. He wore gloves instead of mittens so he could pull the reserve chute rip cord if necessary. Warrant Officer Macauley and his men decided to leave their 65pound personal survival kits behind.

As the C-130 headed back to the crash site, the flare dropped through the cloud cover and lit up the scene below. The jumpmaster got a good fix on the target and the plane headed into the wind for 30 seconds, which would allow the jumpers to be blown back to the crash site. Macauley and five others plunged out the door.

Macauley's canopy blossomed, and he looked down to see that the crash site was still well illuminated. "I was quite happy. I realized we had made it," he later told me. He began maneuvering his parachute into the wind to use its very limited forward speed of 7 knots to counter some of the 35-knot wind. At best, he would land traveling backward at about 28 knots.

Master Cpl. Bruce Best landed first. Seeing that the wind was dragging Best across the snow, Macauley opened the safety guard on his own chute's quick release. He hit the ground hard, and was dragged 50 ft.

(Please turn to page 116)



• Ford used to bill the Escort as the world's most popular passenger car. This was based on collective sales totals of all cars bearing the Escort name and the domestic Escort's U.S. sales leadership in 1982, '87 and '88.

However, European Escorts were very different from their Dearborn cousins—different as in better. But the new Escort, introduced last year, eliminates this confusion.

The Escort now uses the same basic platform as the Mazda Protegé. Ford and Mazda engineers developed the new car jointly, and Mazda supplies the new Escort's performance powertrain. Styling came from Ford, and the interior design was developed in an international Ford studio located in Hiroshima.

The two liveliest members of the Escort family, the

GT coupe and new-for-'92 LX-E sedan, use the same 1.8-liter dohc 16-valve 127-hp Four that powers the Mazda Protegé. They're also equipped with 4-wheel disc brakes. All Escorts have a 5-speed transaxle, independent suspension and rack-and-pinion steering. The basic Escort and midrange LX model use Ford's 88-hp sohc 1.9-liter Four. They employ drum brakes at the rear, smaller discs at the front and 13-in. wheels. Both the GT and LX-E have more aggressive suspension components, alloy wheels and a lot of other extras.

But that's not to say that the lesser Escorts are strippers. The basic car comes with reclining front and folding rear seat backs, front and rear antiroll bars, 2-speed wipers, side-window defoggers, a hatch cargo cover, trip odometer and central console. The LX adds a digi-



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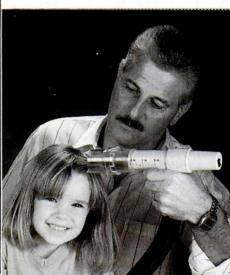
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THE RESCUE OF BOX TOP 22

(Continued from page 52)

before he could deflate his chute. Luckily, none of the group was knocked unconscious and carried away into the darkness.

As Macauley's men struggled to-ward the wreckage, a second group of five parachuted from the same C-130. The plane then made a third pass to drop survival gear and toboggans loaded with supplies. With parachutes attached, the toboggans didn't stay put on the ground. One blew right past a SARTECH at 40 mph. The team retrieved only one toboggan, which got stuck in a snowbank.

Life amid the wreckage

Approaching the crash site, Macauley saw there was nothing left of the aircraft but a big section of wing and a portion of the tail. He called out. A voice from inside the tail responded, saying there were 11 still alive there.

Macauley and his men set to work immediately, covering the entrance with a parachute and checking on the condition of the survivors. Outside, they found two more, who had been too badly injured to move after the crash. The other survivors had covered them with sleeping bags and surrounded them with snow walls. By now, they were nearly covered with snow, but miraculously still alive.

The SARTECHs set about erecting their 3-layer-thick arctic tent and Macauley called for more SAR-TECHs to be dropped to help in treating the survivors.

The SARTECHs that responded had the most harrowing jump of all. Departing the Edmonton C-130 only 800 ft. off the ground, Master Cpl. Jim Brown said it was pitch black as he descended. He had just enough time to check that his chute had deployed and to turn so that he would land traveling sideways. The landing knocked the wind out of him and he was dragged over the snow before he recovered and released his chute. One in his group suffered broken ribs, and another a broken nose.

Finding themselves in total darkness, they regrouped using glow sticks and helmet lights. The wreckage was nowhere in sight. Brown formed his men into a circle facing out, then radioed Warrant Officer Macauley to pop a flare. One of the men spotted it, and they formed up in a line. Then they leapfrogged foward, having the two at the rear of the line walk to the front and stand there to keep the rest from wandering off course. It took an hour to cover the 100 yards to the crash site. Soon afterward, the Go-Tracks arrived, bringing extra medical supplies and a warm place to treat the survivors.

While Macauley worked to stabilize the patients, Blair back in Edmonton continued to worry about getting a helicopter to the crash site. The Canadians were still reassembling the Twin Huey at Alert, when the American team launched its Pave Hawks on the 3-hour trip from Thule, which would require inflight refueling from a pair of U.S. Air Force HC-130s.

The Canadians were airborne before the Americans arrived, and made three flights to the crash site in marginal visibility using night-vision goggles. They carried out all of the 13 crash survivors and six SARTECHs to care for them. Then the Huey developed mechanical problems and landed for good at Alert. Eighteen SARTECHs and four Go-Track drivers still needed a ride back.

Alaska Air Guard Maj. Ron Parkhouse, flying in the lead Pave Hawk, said the view through the ITT AN-VIS-6 goggles approaching Alert was "like we were on another planet." Flying in a snowstorm over glaciated, mountainous terrain on a pitch-black night with low ceilings made depth perception and forward visibility just about impossible. Parkhouse quietly wished he was in another line of work at about the time he spotted a dim light from the crash site and landed in the blowing snow. He said without the latest generation of goggles, it

would not have been possible.

By the time the Alaska Air Guard helicopters arrived at the crash site, many of the SARTECHs had not slept or eaten much in nearly two days. The Pave Hawks evacuated all of the SARTECHs and the drivers, and also airlifted out the bodies of the dead-each making two trips back to Alert. Of the 18 people on board the Hercules when it went down, four had died shortly after the crash due to injuries. The pilot, Capt. John Couch of Edmonton, who had flown many search-and-rescue missions during his career, had organized the survivors and gotten them into shelter. He was lightly clothed and died of exposure before help could arrive.

The rescue aircraft and crews from Canada and the U.S. dispersed quickly to their bases after completing their mission at 82° north latitude. For most of them, it had been the most difficult mission in memory. "This is the farthest north a rescue has ever been carried out [by the Canadian military]," said Ritchie, a 20year veteran of SARTECH duty. "What made it such a big thing was to get that many people out from so far



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