

## Glacier Girl: The Back Story

How it got trapped in the ice, and how it got out

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*Glacier Girl in flight. (William Zuk)*

The journey on which the world's most famous fighter airplane is now embarked is really the third leg in a trip that started 65 years ago, when Great Britain was holding off Nazi Germany and the United States was rushing warplanes to British airfields. In 1942, Glacier Girl was a brand new Lockheed P-38F, one of hundreds of airplanes sent as part of U.S. Army Air Force had its pilots base-hop across the North Atlantic from Maine to Scotland. Not all squadrons made it across, and this particular one was forced down by weather to an emergency landing on an ice cap in Greenland. For Glacier Girl, that was leg one.



*Trapped inside an ice cave in 1992, the P-38 looked helpless despite its fearsome weapons.  
(Lou Sapienza)*

The following story, originally published in the January 1993 issue of *Air & Space/Smithsonian*, recounts adventures during the second leg of the journey, a 22-year slog through recovery and restoration that couldn't have been completed without the ingenuity, stamina, and fortune of a Roy Shoffner, a Kentucky businessman, named the P-38 "Glacier Girl" and began to plan the completion of its mission.

Glacier Girl's new owner Rod Lewis, a pilot and president of the Lewis Energy Group in San Antonio, Texas, bought the fighter last year and immediately started preparations for the third leg of the journey. Lewis owns seven other warbirds, including Rare Bear, a Grumman F8F Bearcat racer, which set the closed-course world speed record of 528.3 mph in 1989. "I'm interested in preserving the history and heritage," he says. He was committed to having Glacier Girl complete the mission even though, he acknowledges, "this trip is going to cost some bucks."

"Besides that," he continues, "it's a hell of an adventure. I've been drilling oil and gas wells since 1982, so I guess I was looking for the equivalent experience in aviation." Lewis will fly his Pilatus PC-12 on the journey, while warbird expert Steve Hinton flies Glacier Girl and airshow performer Ed Shipley flies a restored North American P-51. The group flew a scouting expedition earlier this month to locate alternate airfields in case the weather once again forces an unplanned landing. "In that part of the world, weather changes are quick and constant," Lewis says. "We went by some old World War II airfields that had gravel runways and still had fuel barrels sitting around." He expects to make six to eight stops a long the way. "You know, it wears you out flying these old airplanes. We can cross 1,000 miles if we need to."

Glacier Girl will appear at the Oshkosh, Wisconsin the last week of July. And the future? Lewis expects the warbird will make an appearance at a few airshows every year.

## **Iced Lightning (reprinted from Air & Space magazine, January 1993)**

Karen Jensen

Lieutenant Harry L. Smith had a 23-year-old's knack for popular expressions and a military pilot's level head. Before attempting to land his P-38 on a forlorn stretch of the Greenland ice cap, he flew over another pilot's Lightning, which had just slammed over on its back in the slushy summer snow. Smith was searching hopefully for some sign of life in the upside-down aircraft. "Susie-Q, it's happened! It's true!" Smith rhymed in a journal written shortly after the July 15, 1942 crash landing of six P-38s and two B-17s. "The lad is climbing out, he's waving at me. Old Mac! I pull 'er up in a roll over him, and circle to approach"

Smith throttled back at 200 feet, cut off the fuel, feathered the props, and slid, wheels up, into a snowy landing. Before sprinting off to join his downed buddies, he logged in details of the light and landing, shrugged off his parachute, removed his helmet, and threw the keys to the P-38's canopy inside the cockpit.

Over 50 years later, Brad McManus, the pilot of the overturned P-38, looked back on that final detail with amusement. "We all laughed at how he anticipated that somebody might need those keys," McManus says. Foresighted as he was, however, it's doubtful that Harry Smith, who died 10 years ago, could have imagined what those circumstances might be.

Friends for over 20 years, Atlanta businessmen Pat Epps and Richard Taylor have pursued adventure with the spirit of two mischievous boys chasing a girl with pigtails. Epps, the ebullient son of a Georgia aviation pioneer, is the owner of Epps Aviation at Atlanta's DeKalb-Peachtree Airport. Taylor is an architect, pilot, and born storyteller. Every summer, the two would take a small airplane and set off somewhere: sometimes to Mexico, but more often to colder climes.

In 1978, while attending the Experimental Aircraft Association's annual fly-in at Oshkosh, Wisconsin, Epps and Taylor decided in the reasonable manner of lifelong Southerners, that as long as they were that far north, they may as well try to reach the North Pole—one rolling the pole, the other unrolling it, as they like to joke.

Their status as Arctic explorers confirmed, they decided to tackle another northerly adventure Epps had casually dismissed a few years earlier. The idea came to Epps via Roy Degan, an airline pilot based in Atlanta, who'd heard an incredible story from a man who'd flown P-38s in World War II.

The former Army Air Forces pilot, Carl Rudder, had taken part in Operation Bolero, a mission to ferry fighter planes across the north Atlantic to England. Bolero's first flight—led by

Paul Tibbets, who later gained fame as pilot of the airplane that dropped the first atomic bomb on Japan—successfully completed the journey. The second—Carl Rudder's—didn't.

Rudder's flight of six Lockheed P-38F Lightning fighters and two Boeing B-17E Flying Fortress bombers ran into bad weather on the third leg of the trip and turned back outside Iceland. But their intended landing site in Greenland was closed and, low on fuel and disoriented in the storm, they couldn't make it to another. The pilots decided to attempt to land on the ice cap, with P-38 pilot Brad McManus, the lowest on fuel, going first.

Thinking the ice looked flat and firm, McManus went in with his landing gear down. "If I'd been a little more mature and older, I'd probably have said, 'Gee, this is silly to try to save this airplane. Let's just get it down and get out of it alive,'" he says today. "But I did try to save the plane, feeling that if we could get in with our wheels down, we could fly them out."

For a moment it looked as if he'd made it, but then the nose wheel collapsed and the airplane flipped over. The remaining P-38s all landed with their wheels retracted. The B-17s stayed up for another hour or so, sending out S.O.S. signals before they too bellied onto the harsh and desolate site.

For nine days, the 25 men on the flight huddled inside the two B-17s, where they lived, all things considered, in relative comfort. There was little concern about rescue—supplies had been dropped on the third day, and word came that a rescue team was on its way. Men from a special Army Air Forces unit driving a dogsled finally arrive on July 24 to lead the downed crew on an arduous 10-mile march to the south-east coast of Greenland, where a Coast Guard cutter would be waiting.

"There were very mixed feelings at that time," McManus recalls. "There's a bonding that occurs between a young pilot and his own plane, and when you left you were saying goodbye to it in a sense, and that was a very sentimental moment. On the other hand, we were being rescued and we were getting out alive, with no injuries or deaths, and on that note it was kind of a joyful moment that we were finally going to get off the ice cap."

The eight warplanes sitting behind them on the vast sheet of ice would be largely forgotten amid the greater drama of the war—except by the men who flew them.

When Carl Rudder told his story to Roy Degan some 35 years later, Degan became intrigued by the prospect of attempting to reclaim the warbirds from the ice. In 1978 he and a partner asked Pat Epps about using his facility to restore them. They later secured salvage rights to the aircraft.

"I told him it's not my game," Epps says. "I'm into Learjets and Bonanzas and these other things, and I'm not interested in these warplanes at all." But time and experience have a way of changing one's mind—that and in this case a chance encounter Epps had with a wealthy aviator who mentioned that he'd like to buy a P-38. Suddenly the idea seemed worth a closer look. In 1980 Epps and Taylor decided that their next adventure would be to the Greenland ice cap.

"Our thoughts were that the tails would be sticking out of the snow," Taylor says with a grin. "We'd sweep snow off the wings and shovel them out a little bit, crank the planes up, and fly them home. Of course, it didn't happen."

The name "Greenland" is a misnomer if ever there was one. Legend has it that Eric the Red, who discovered it around A.D. 900, gave it the misleading name in order to lure Norwegian and Icelandic settlers to its rocky shores. A protectorate of the Kingdom of Denmark, the island resembles an ice-filled bowl. Over the years, the massive ice cap—10,000 feet deep in places and covering almost seven-eighths of Greenland's surface—has pushed the center of the island below sea level. There the constant snows melt or are compressed into sheets of ice that move steadily outward toward the island's mountainous fringe.

This past July 15, fifty years to the day after his crash landing, Brad McManus found himself standing once again on the ice cap. "I must say, it hadn't changed a bit. It was the same exactly as it was when we were there," he says.

Richard Taylor echoes this observation: "It's totally featureless. It doesn't change." But when Taylor and Epps formed the Greenland Expedition Society in 1981 and traveled that year to the coordinates the B-17 crew members had recorded, they discovered change did come to the ice cap. The airplanes abandoned there 39 years earlier were nowhere in sight.

In retrospect, it seems obvious that the airplanes would be buried under a good deal of ice. But no one was prepared for how much. "That year the tail wasn't sticking out, so they were ten feet under," Pat Epps says, recalling the team's confidence. But they didn't find them on their second visit to Greenland later that year, or their third, or their fourth.

In the meantime, however, the Danish government had granted the Greenland Expedition Society exclusive salvage rights to the airplanes; Roy Degan and his partner had allowed theirs to expire, concluding that the warbirds were irretrievably lost.

Still Epps, Taylor, and ever-growing group of volunteers remained undeterred. They continued to research the problem, and in 1988 arrived on the ice cap armed with two different sophisticated sub-surface radar systems and crews to operate them.

Within days, the radar teams had pinpointed the exact location of all eight airplanes. And it immediately became obvious why they hadn't been located earlier. The shifting ice had carried the airplanes about two miles from their original location. And a high-pressure steam probe revealed that they lay beneath 264 feet of solid ice.

Roy Shoffner had followed the society's adventures from afar, and he became intrigued by the engineering problem of salvaging an airplane from beneath all that ice. It became his favorite topic of conversation among friends and business associates. "Someone would come by and I'd say, 'All right, how would you get that airplane out? And I'd get their views.'" Word got back to the society that he was interested, and eventually Shoffner agreed to sponsor a 1992 expedition and accompany expedition members to the ice cap.

Shoffner is typical of the type of individual the society's efforts have attracted: he's a long-time pilot, having flown in the service, in business, and for pleasure. And he's a wealthy man—a retired manufacturer of plastic pipe—with the resources to live what many other people can only dream. Equally important, he's an inventive thinker with an adventurous streak.

Some of the society's greatest technological innovations came not from experts in Arctic airplane reclamation—if there is such a thing—but from the eclectic group of investors and volunteers Epps and Taylor assembled. Don Brooks, owner of a chain of auto part shops and an air compress company, as well as the expedition's trusty DC-3, developed a concept for melting a four-foot-wide shaft in the ice. His company built the original Thermal Meltdown Generator—dubbed the Gopher. The 550-pound cone—it looks something like the nosecone of a missile—is wrapped with copper tubing, through which hot liquid circulates. Another expedition member, Bobbie Bailey, owner of a compressor re-manufacturing factory, designed and fabricated an improved version of the Gopher, known as the Super Gopher. She was also the designer of a coring device that, during a 1989 expedition, reached down through the ice and retrieved physical proof that the airplanes were there—a necessary condition for retaining the society's salvage rights.

Pat Epps remembers this as one of the most exciting moments of the expeditions. Previously, the only proof that they'd actually found the airplanes were blips on a radar. Then they send the coring device tunneling down to where the B-17 "Big Stoop" was believed to lie. "The tubing came up," Epps recalls, his voice still reflecting the awe of the moment. "It wasn't a beer can. Aircraft tubing. The second piece that came up was a piece of skin, a piece of metal—olive-drab metal."

It wasn't until the following year that the Super Gopher actually tunneled its way down to Big Stoop. And that day, the expedition met one of its biggest disappointments. The team discovered that the B-17 had been badly crushed by the weight of the ice above it.

"Now, if that doesn't give you license to quit, there's nothing in the world," Richard Taylor says. "Except we thought, There are eight airplanes there. We probably hit the bad one. We talked ourselves into it: We hit the bad one."

Reasoning that the smaller, more sturdily built P-38s would be in better condition, the team members set the sights of their next expedition on Harry Smith's Lightning, the only one shown in 1942 photographs to have survived with its propellers both intact and unbent, probably because Smith had feathered them before landing.

Unfortunately, the society, which had spent about \$1.5 million to get to that point, didn't have enough money for a return trip to Greenland. The next year came and went with no expedition at all. Then Roy Shoffner came along with the necessary \$500,000 for the 1992 expedition. It seemed a good omen that the trip would put them on the ice cap at the exact 50-year anniversary of the crash landing.

When expedition members recall their work to liberate the P-38 from the clutches of the ice, they talk about mainly about two things. They talk about the incredible kick of seeing an

11-year effort finally pay off. And they talk about The Hole, the shaft in the ice through which the adventurers descended and pieces of airplane rose (see "Cold Mining")

Imagine dangling inside an icy tunnel so narrow you can't stretch out your arms. The trip down to the airplane takes 20 minutes. You hear the clanking of the chain hoist and watch the opening at the top of The Hole get smaller and smaller until you can't see it at all. When you look below, the tunnel seems endless. And when you look straight ahead you see bands of clear blue ice representing year after year of Arctic winters and summers. It was a test of nerve all the camp faced, and all passed—though not, understandably, without initial hesitation.

"I thought about that for a year. Sort of mental preparation," Richard Taylor says. "I'd be in an office building in downtown Atlanta. I'd go to put my nose up to the glass and I'd look down and you're on the 25th floor and you see a manhole cover from a sewer. Well, that's the dimension: you think, I'm going down a tube that wide, 25 stories deep. I had to be scared to death. Ain't no question. But when the moment comes, for whatever reason it's not there. You get in there. You know you've got something to do. You know you've got to go."

The atmosphere inside Pat Epps' aircraft maintenance hangar in Atlanta is giddy this balmy autumn night. There's an impromptu party, and the guest of honor is Harry Smith's P-38. Bathed in greenish light, the components of the still-disassembled aircraft lie in rough approximation of where they should be—though the wings are upside down and the large center section is being placed aboard a ship in Denmark. The airplane serves as the backdrop for a round of speech-making, and each speaker assumes a casually heroic pose—gesticulating with one arm, resting the other elbow on the P-38's horizontal stabilizer. The chunk of old metal rocks precariously aboard its sawhorse perch.

Epps and company have been assured by experts that the aircraft is restorable, and to a novice's eyes, it does look good. The canopy was crushed by the ice, and in places the aircraft's skin shows evidence of having borne tremendous weight. But as Roy Shoffner, who will be funding the restoration, points out, "It's got all the parts. That's what makes it so nice. If you want to restore Grandfather's old Model T that's in the barn, it's hard to do. But this one was only two months old when it was put on the ice and all the pieces were there."

Pat Epps interrupts: "Roy, I put you on the spot because I told everybody it's going to be flying at the Oshkosh two years from now."

But Shoffner quickly responds, "Oh that's easy. Yeah, we'll do that."

The future of the Greenland Expedition Society seems less certain. The society doesn't yet have funding for another expedition, and Epps is anxious to relinquish his position as society president. "I've been gone too long, neglecting my business too much," he says. "I need to turn to that."

At this point the society and its backers have spent some \$2 million, and the restoration of the P-38 should cost another \$500,000, so perhaps its wishful thinking when Epps estimated what the airplane will bring. "I think with the story and everything, it must be a \$3 million

plane," he says. Bruce Goessling, an aircraft dealer in Chino, California, who's restored two P-38s, places the value of a flying P-38 at \$750,000 to \$1 million. But he acknowledges that the society might be able to make much more if they reach the right group of investors.

In an effort to raise the airplane's profile, Epps speculates that the society will fly the airplane around a little before auctioning it, including making its promised appearance at Oshkosh in 1994. Portions of the aircraft, as much as could be fit aboard the expedition's DC-3, already drew large crowds of admirers when they appeared at Oshkosh last summer.

Earl Toole, who believes himself to be the only living member of the 1942 rescue party, is in Epps' hangar tonight. Toole has made something of a full-time hobby of documenting the history of the rescue. For this gathering, he has brought a diorama he made: Styrofoam icebergs, tiny B-17s and P-38s all correctly arrayed, and tinier figures, accompanied by a dogsled, trekking toward a boat on the coast. At Oshkosh last summer, "people would come up to me, their faces all lit up, and ask, 'Were you one of the pilots?' When I told them no, they'd just say "Oh" and walk away," he says in good-natured resignation.

None of those pilots is able to be in Atlanta tonight. But it's hard to look at the P-38 without feeling the presence of at least one of them. As Don Brooks and the expedition's chief engineer, Neil Estes, reverently walk around their find, Brooks points to one of the tail booms, where two Lockheed workers signed their names when the aircraft was being assembled. Then he lifts a nearby hatch, revealing the airplane's Identification Friend or Foe transmitter, which the youthful Harry Smith shot full of holes with his .45-caliber pistol before abandoning the P-38. "He definitely left the aircraft with a thought of recovery," Estes is quick to point out. "It took a while," he adds with pride, "but here we are. We've got it."

## **How They Did It**

Using a steam probe, an eight-foot-long steel rod trailing 300 feet of steel-reinforced rubber hose, the team located the airplane. They ran 264 feet of one-inch steel pipe down the hole made by the probe and erected an I-beam truss on the surface above. From the truss, a cone-shaped heater with a hole in the center—the Super Gopher—was lowered by an electric winch at the rate of two to four feet per hour. Guided by the pipe, it melted a shaft four feet in diameter. A bilge pump removed the meltwater.

Using a hot-water cannon, the crew carved out a 50-foot-wide cavern around the P-38, which they took apart and sent piece by piece to the surface. They had to sink five shafts to excavate a hole wide enough to lift the last piece of the airplane, the 17-foot-long, three-ton center section. It came up on August 1, 1992, three months after the expedition had begun.