**In 1945, the military helicopter was still a novelty, and rescue methods were primitive by today's standards. Still, supported by engineers, tree-cutters, and earth-movers, the YR-4 got its man out of the Burmese jungle.**

# The Skyhook

BY C. V. GLINES

THE helicopter is now a familiar sight in the world's skies, but there was a time when it was a rare bird and its future was in great doubt. After many false starts dating back to World War I by American and foreign inventors, it was Igor Sikorsky who finally solved the riddle of vertical lift and proved that helicopters had a place in aviation's future. His first successful helicopter, the VS-300, was improved and became the XR-4, which was delivered to the Army Air Corps in May 1942. An order for fifteen YR-4As for service test followed in December, and the saga of the practical helicopter began.

Lt. Raymond F. Murdock was one of the early Air Force pilots who helped prove how valuable the "flying eggbeaters" could be. Now retired from his job as a high school guidance counselor in Waynesburg, Pa., he has tucked away in a footlocker a Distinguished Flying Cross and the Air Medal with three Oak Leaf Clusters earned for air search-and-rescue missions while serving in the CBI during World War II. The citation for the DFC explained that the award was "for extraordinary achievement by participation in operational flights as pilot from 4 October 1944 to 29 March 1945, totaling more than 300 hours, during which exposure to enemy fire was probable and expected. These flights, performed for the purpose of search, supply, and rescue of aircrew members downed in the jungles and mountains of Burma, were accomplished with untiring energy and a devotion to duty above and beyond that normally expected."

*Just like a big Revell model! Here Sgt. Don Nigro (on top, working on the main rotor assembly) and his colleague at Myitkyina, Burma, reassemble the first YR-4 helicopter shipped to the Burma-India theater for rescue work during World War II. The Sikorsky was flown from Wright Field in a C-54.*

But it was the single mission for which Ray Murdock received the second Oak Leaf Cluster to the Air Medal that earned him a permanent niche in Air Force history. The story of that mission begins on March 19, 1945, when an Air Transport Command C-46, flying the Hump to Kunming, iced up and crashed in the Burmese mountains. The crew bailed out near the Shingbwiyang Air Field, and an air search was begun. The next day, a Naga native arrived with a note from the C-46 radio operator saying he was badly hurt. A search party followed the native into the jungle and located him. Meanwhile, a Naga chieftain arrived and, with gestures and grunts, managed to convey the message that he knew where the C-46 had gone down and exactly where the other crew members were located.

When asked by sign language if he would be willing to go aloft and point out where the crew might be found, he agreed and was promised a reward of money and gifts for his wives if the men were located.

The plane chosen for the search was a Fairchild PT-19 trainer assigned for proficiency flying. Capt. James L. Green strapped the Naga chief in the front seat and took off. After two hours of fruitless searching, Green concluded that the chief was completely disoriented and headed back toward the Shingbwiyang Air Field. He had only one more ridge to cross when the plane's engine coughed and died. Too close to the ground, there was nothing Green could do but ride the plane down and hope for a soft landing in the jungle treetops.

### Crash Landing in the Jungle

The PT-19 smashed through the tall trees on the side of the mountain and dropped into the jungle below, five miles short of the field. It might as well have been a thousand.

Search efforts intensified when Green was overdue. Without a radio, he had been unable to report his position periodically, so no one knew where to look for him. Just at sundown, the C-46 crew members were sighted and led to safety by a ground party. This left Green and his Naga passenger as the focus of the search effort.

When Green's PT-19 had gone down, his unit at Shingbwiyang dispatched a C-47 to assist in the search. At dusk, as the Gooney Bird was preparing to land, one of its crew members sighted the twisted wreckage of the PT-19. There were no signs of life.

Although Green's plane was down only a short distance from the field and could be seen from the air, nothing could be done until the next morning. At dawn, a team of rescuers, led by Lt. William Diebold and guided by a pilot in an L-5 radioing directional instructions, slashed up the mountainside through dense jungle toward the crash site. They arrived after a day and a half of backbreaking effort. Tearing at the wreckage, the team found Green underneath, barely alive. Capt. (Dr.) Jim Lamberts, the base flight surgeon who had volunteered to go along, pronounced Green's condition critical. The luckless pilot had suffered a concussion, a broken pelvis, internal injuries, a broken jaw, and serious cuts about his face. He was delirious, his eyes were swollen shut, and he could not communicate with his rescuers.

While Dr. Lamberts worked on Green, the rest of the team searched for the Naga chieftain. Tracing bent branches and trampled undergrowth, they discovered the Naga chief's body in a shallow grave nearby. Apparently, his tribesmen had found the wreckage, buried their leader, stolen Green's pants, watch, and wallet, and left Green to die, possibly as punishment for causing the death of their chief. Green may have been luckier to be alive than he realized. Many of the Naga tribes in that area still practiced headhunting. However, so far as was known, they practiced decapitation only against enemy tribes and, possibly, the Japanese.

The more Dr. Lamberts checked his patient, the more convinced he was that Green could never survive being carried down the steep slope and through the jungle back to the base. His internal injuries were uncertain, and the extent of his fractures would not be known until he could be X-rayed at the base hospital. Splinters from Green's broken pelvis could puncture his internal organs if he were jostled on a stretcher. But if he were not evacuated, he would surely die from infection and internal bleeding.

Dr. Lamberts conferred with Lieutenant Diebold, the rescue party leader, and asked if it would be possible to carve a landing site out of the jungle so that an L-5 could land and evacuate Green. Diebold shook his head. "Doc,

***Almost ready for the rescue helicopter's landing is this tiny patch carved out of the dense jungle on a narrow hilltop in Burma. Combat engineers and rescue personnel had to be resupplied by air for two weeks as they struggled to keep downed pilot Capt. James L. Green alive and to make his rescue possible.***

*Payoff for the rescue effort finally came on April 4, 1945, when the injured pilot of the downed PT-19 was carried by rescue personnel on a makeshift litter to the YR-4 helicopter sent from Myitkyina, Burma. The rescue mission took two weeks, though the injured pilot, Capt. James L. Green, went down only three minutes' flying time from his base, Shingbwiyang Air Field, in Burma. Here, members of the rescue team make their slow way from the jungle to "Pecorare the Greek's Airstrip" and the waiting chopper.*

it would take a strip at least 1,500 feet long and maybe longer because of those 150-foot trees. It would take weeks to get a strip built on the side of this mountain and [would] require a couple hundred men."

### "What We Need Is a Skyhook"

Lamberts had never been faced with such a complete lack of alternatives before. The patient had to get to hospital care, but if he were carried out, the trip would kill him. "What we need is a skyhook," he said to no one in particular.

Diebold nodded, but did not reply as he knelt down beside Green, who lay moaning on the ground. The word "skyhook" lingered in his mind, and he recalled how as a Boy Scout he had wished several times for a mythical skyhook on some of his mountain-climbing trips. Suddenly, he stood up and said, "Doc, they've got a skyhook! That air rescue outfit at Myitkyina has a helicopter—one of those 'flying eggbeaters.' Maybe this is a chance for those pilots to show what they can do!"

The Tenth Air Force's Air Jungle Rescue Detachment at Myitkyina was immediately contacted by radio. Their Sikorsky YR-4 helicopter would be dispatched promptly to Shingbwiyang. Lt. Raymond F. Murdock would be the pilot.

The YR-4 was still relatively new to the Army Air Forces in 1945. Although 128 R-4s, followed by about 300 R-5s and R-6s, were delivered by Sikorsky to the AAF before the war was over, all were very limited in their load-carrying and altitude capabilities.

However, in April 1944, Lt. Carter Harman showed that the noisy, ungainly YR-4 could play a role in saving lives in the CBI. He rescued a trio of injured British soldiers and their American pilot, T/Sgt. Edward Hladovcak, whose L-1 liaison plane had been shot down behind enemy lines. Despite the high altitude, humidity, and tropical temperatures that strained the YR-4 to its limits, especially in its ability to hover, he was able to pluck the four, one by one, out of a rice paddy almost under the noses of the Japanese. Harman made several more jungle evacuations before returning to the States. The YR-4 was put in temporary storage afterward because no one was checked out in it.

In January 1945, a B-25 crashed in a remote jungle area in Burma, and Gen. H. H. Arnold personally ordered another YR-4, along with two pilots and maintenance personnel, flown from the States to assist in the rescue of the downed crew. Seventy-four hours after receiving the order, the YR-4 was offloaded at Myitkyina. Within the next twenty-four hours, it was assembled and ready for flight. Lt. Irwin C. Steiner, test pilot from Wright Field, volunteered to attempt the rescue; however, before takeoff, the B-25 was located, and the crew walked out of the jungle by themselves.

Capt. Frank W. Peterson, officer-in-charge of the helicopter crew, had orders to keep his men in the CBI for thirty days, participate in any rescues in which the "flying eggbeater" was needed, and train two or three pilots in its operation before returning to the States. Peterson and his crew didn't have long to wait for a

rescue mission. At midnight on January 23, 1945, a call was received that an enlisted man at a weather station located high in the Naga hills in northern Burma had accidentally shot himself through the hand. His wound had become infected, and he needed prompt medical attention. Could Captain Peterson land the eggbeater at this high altitude and get the man out? He did by making a running takeoff.

### The Lightest Pilot Available

In the weeks following, the underpowered machine was a familiar sight to the crews flying in and out of Myitkyina. Instead of two or three pilots being checked out, however, only Lieutenant Murdock qualified because he was the lightest pilot available. With an instructor pilot and a heavy student pilot, the struggling YR-4 with its 185-hp engine could hardly make it off the ground under the best of conditions. Murdock soloed in six and a half hours and built up flying time on short flights, identifying for record purposes the known sites of crashed planes. After Peterson and Steiner returned to the States, Murdock used the craft on several local searches, but had not been called on to perform any life-saving missions until the request came from Shingbwiyang.

After arrival there, Murdock flew over the crash site in an L-5 and advised the ground crew where to build a landing spot. If he were to get the YR-4 down nearby, Diebold and his men would literally have to carve a landing pad out of the jungle. It would take time, equipment, manpower, ingenuity, and a lot of luck. How long could Green last without hospital care?

Dr. Lamberts answered the question quickly. "If I can keep the infection down and keep him fairly immobile, I think he can stand it for about a week. Any more time than that and it will be touch-and-go because I really can't tell the extent of his internal injuries."

A group of combat engineers and base personnel, led by Lt. Michael Pecorare, volunteered for a work detail and pushed their way to the crash scene. Pecorare estimated that it would take about ten days to construct a landing pad with enough clearance all around so that Murdock could get the Sikorsky in safely. Instead of constructing the pad on a ridge of a half-bowl-shaped area where Murdock recommended, however, the team decided to construct a landing pad on a ledge on the side of the mountain inside the half bowl. Trees would have to be cut first, then the stumps blasted out. Dirt would have to be dug out of the cleared area and bulwarked to make the pad. Supplies would be airdropped until the evacuation was completed.

Dr. Lamberts was replaced by Capt. (Dr.) H. D. Underwood, who sat with the injured pilot around the clock. Green's condition improved when penicillin arrived, the new antibiotic "miracle" drug just being made available.

The work went slowly. The crews radioed for a power saw, which was airdropped on March 28, and the tree-cutting speeded up. Tons of dirt were dynamited so that the eighteen-degree slope could be leveled to about five degrees for drainage.

While the engineers worked from dawn to dusk, Dr. Underwood grew concerned about his patient. He radioed for Maj. (Dr.) Arthur R. Dewey, a maxillofacial specialist, to help him. Dewey took one look at Green's swollen face, promptly pulled three of Green's front teeth, and wired his fractured jaw so that it would heal properly. It was the consensus that Green's condition was still critical; moving him down the mountain on a stretcher was out of the question.

### "Pecorare the Greek's Airstrip"

The diary kept by the ground party noted for March 29: "Work on the strip progressed with everyone taking a turn with pick, shovel, and axe. Dirt that wasn't blasted away was shoveled into empty TNT cases and towed away with [parachute] shroud lines tied to them. . . . Many tons of dirt were hauled away in this manner by the 'truck drivers' union,' dumping it in the right places."

By March 31, the story of the attempt to rescue Capt. Jim Green had spread throughout the China-Burma-India theater. More volunteers arrived to relieve the exhausted men who had been there since the first day. Supplies were airdropped regularly; a full-sized camp was established to take care of the growing numbers of men who insisted on helping. The combat engineers, augmented by mechanics, clerks, MPs, and truck drivers, kept plugging away as long as they could see to work.

By April 3, enough dirt had been piled up, bulwarked, and packed down so that the surface seemed hard enough to take the weight of the YR-4. Murdock, who had been watching the progress from the air, radioed that he would try to get the chopper in the next day. That night it rained heavily, and the engineers worried that the landing pad would be washed down the mountainside. However, the first light of dawn proved that their foresight in making an extra strong bamboo bulwark had paid off. The pad was intact, although the steps they had carved for themselves from the campsite to the pad had disappeared.

The morning light brought other good news. Green's promotion to major was radioed to the site, and his squadron commander promised him a promotion party when he returned. Green, no longer delirious, could only grin around his wired jaws.

But there was bad news, too. Perched 1,500 feet above the valley, the men on "Pecorare the Greek's Airstrip" looked down on a solid blanket of fog. Shingbwiyang was socked in while they sat above the clouds, ready but helpless.

On the ground, hoping to get airborne before the temperature increased and raised the air density, Murdock preflighted the YR-4 and waited for the fog to lift. At 9:30, the weatherman told him to stand by. At 10:00, Murdock cranked up, blasted off, and headed for the bare spot on the side of the mountain.

Murdock was worried about this mission, although he did not mention it to anyone. He had only thirty-six hours in the chopper and no experience landing in such a limited space under such dangerous conditions. The helicopter's engine was overdue for replacement and was not pulling full power. With the extra load of a passenger at a higher altitude, he knew he would be riding on the ragged edge of the craft's absolute maximum performance capability, even though he had stripped it of all nonessential equipment.

When he arrived over the landing site, a stiff breeze

*Piloted by Lt. Raymond F. Murdock, the rescue helicopter had to fight for every inch of altitude as it lifted off with injured James Green aboard. This mission and others Ray Murdock flew in Burma showed how valuable the new "flying eggbeaters" could be in rescue work.*

kicked up through the valley, and the chopper started to bounce madly in the rough air. Murdock tensed and gritted his teeth. Those 150-foot trees surrounding the cleared space could easily spear him if he lost control of the aircraft.

### Landing in a Windy Well

"This is going to be like landing in a well," Murdock muttered to himself. "And a windy well at that."

"The first approach was made at an altitude of fifty feet in order to plan the landing," Murdock told the author. "Because of the wind, I elected to go in over the ridge and down as this would give me an out if I undershot or went over.

"On the first attempt, I was carried below the ledge of the pad because of a downdraft. I momentarily hovered there, but with full power could not climb the few feet necessary. I then turned down the valley for another attempt. This time I corrected for the downdraft."

Edging slowly toward the clearing, Murdock saw that there was only one way to maneuver the YR-4 to the site safely. Because of the wind, he would have to land facing the slope and bring the craft in toward the width rather than the length of the clearing where there was more space to escape. As he began to hover and descend, he lost altitude excessively and checked the descent, but it was a close call. The tail-rotor blades nipped the leaves of a tree on the way down. Luckily, the strike did no damage.

Murdock plopped down on the pad for a hard landing, and as soon as he reduced power, he felt the machine slipping backward down the incline of the pad. He motioned to the men to hold the gear to keep it from sliding. With a sigh of relief, Murdock cut the engine. Although he was safely down, the roughest part of the mission lay ahead.

In order to make room for Green, the right seat of the YR-4 had been removed and replaced with a flat board secured at a forty-five-degree angle. Green was carried on a stretcher from the campsite and gingerly placed in a semisitting position and tied down. Meanwhile, Murdock asked the men to continue to hold the chopper in place to keep it from rolling before the takeoff. "I'm going to need all the power I can get before I try to lift off," he told them. "Hold on until I give the signal, then let go and flatten yourselves on the ground."

Murdock squeezed into his seat, looked over at Green, and smiled. Green sensed the danger involved, but managed a return grin. "Don't worry about it, Ray," he said through his wired jaws. "You can make it. Go ahead."

Murdock nodded, took a deep breath, and started the engine. The rotor began whipping the air faster and faster, and when Murdock felt he had maximum power, he signaled the men to let go. The next few seconds were almost disastrous. The chopper jumped about four feet off the pad—but no more. To lift any higher, Murdock would have to place the machine in forward motion. This would cause a loss of lifting power, a reduction in the rpms, and a consequent loss of altitude.

### Full Power and Ground Crew Prayers

Murdock had no choice. He pointed the chopper downward off the pad to get forward motion and then strained every ounce of lift out of the power-starved craft to rise above the trees. With the combination of forward motion down the hillside, full power, and the prayers of the watching ground crew, the YR-4 blasted clear of the trees and disappeared out of sight down the valley. Murdock landed at Shingbwiyang to the cheers of the base personnel. En route to Myitkyina, the tired YR-4's engine breathed its last, and Murdock made a forced landing on the Burma Road. It was hauled the rest of the way by truck.

Ray Murdock may not be able to claim he was first to have saved a life using a helicopter, but for Maj. James L. Green, there was no way out of his predicament except by the skyhook that had been sent to the CBI to see if it could aid in the search-and-rescue effort. Since Murdock's classic rescue, thousands of people have come to owe their lives to the vertical lift machine that da Vinci dreamed of and Sikorsky made possible. The saga of the helicopter continues, and its successor, the tilt-rotor, promises even more life- and work-saving capabilities in the years to come. ■

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*C. V. Glines is a familiar by-line to readers of this magazine. He wrote about the Naga headhunters of Burma in our June '88 issue and before that treated us to "The Low-Level World of the Bug-Smashers" (February '88), "Wanted: Yesterday's Airplanes" (July '87), "What Has Happened to the Airlines?" (May '87), and "Brain Buckets" (August '86). A retired Air Force colonel, he is a free-lance writer, a magazine editor, and the author of numerous books.*