

## THEY JUMPED TO DEATH: THE MANN GULCH DISASTER

By

Carl A. Gidlund

Earl Cooley lay on the floor of the bucking C-47, his left hand gripping a door brace and the wind tearing at his goggles and shirt. It was the first time he'd been cool all day.

When the wing slid over the little meadow that he had selected as the jump spot, he nudged the padded and helmeted man kneeling at his side.

The spot looked all right foreman R. Wagner Dodge decided. It was grassy and surrounded by some fairly tall ponderosa pine, a springy tree that would break a smoke jumper's fall if his parachute hung in it, yet strong enough to hold the 'chute while the jumper made his let-down. And it was at the bottom of the gulch, half a mile from the fire burning on the ridge - - far enough away, he thought, to keep the flames from being a threat to his men as they landed.

Nodding to Cooley in agreement, Dodge lurched to his feet and snapped his static line to the anchor cable as the plane bounced in the heat of the fire. Cooley spoke into his hand microphone, telling the pilot to come around for a drift 'chute pass. Squadleader Bill Hellman and jumper Walt Rumsey braced their feet and hooked their static lines behind Dodge's.

Cooley's head and shoulders were out the door as the plane bored in on the next pass. The spot went by; he counted to five then released the small white flare 'chute, used to judge wind velocity and drift.

As the ship banked, the jumpers, kneeling at the small rectangular windows and bunched at the open door, watched the 'chute float into the clearing. Cooley spoke into the mike, telling the pilot that the next pass would be a jump run. The engines throttled back and the three jumpers who were hooked up shuffled their feet then tensed in slight crouches as the C-47 coasted in - - bumpy, but straight and steady.

Cooley lay with his right hand on the foreman's boot, watching the spot slide up. Five seconds past it, he jerked to a kneeling position, yelled "cut the engines," into the microphone then slapped Dodge on the back of his leg.

"Wag went out quietly," says Cooley, now retired from the Forest Service smoke jumper project at Missoula, Montana. "He just stepped and was gone. Hellman was right on his tail hollering and Rumsey followed, quiet though - - a new man on his first fire jump.

"I hollered 'jumpers away' into the mike and the pilot brought the plane around as the next three men waddled to the door and hooked up - - Stan Reba, Marvin Sherman and Newton Thompson. Reba was a second-year jumper so he snapped in ahead of the other two, both first-year men. We all craned our necks

to watch the first stick drift into the spot. From the air, it looked like they all hit OK.

“The pilot cranked the ship around fast and the spot came up in a hurry. I cut the engines and slapped Stan before he had a chance to holler too much. He went out the door with just a little peep. Mary and Newton remembered their training and as they pushed out they started their counts.

“We made three more passes, dropping three-man sticks each time. Finally, by 3:50, all 15 jumpers were on the ground. Some of them had hung up in trees around the spot but had let themselves down. Finally, someone in the clearing waved a signal streamer, telling me that everyone was all right. Then we began our cargo runs.”

The ship made eight passes just above the tree-tops and on each one Cooley shoved out bundles of fire fighting gear, rations and water, the small cargo ‘chutes snapping open just before their loads bumped to the ground. On the final pass, one ‘chute malfunctioned and a small, portable radio smashed into the clearing. The jumper crew would have no contact with the ground crew headed for the fire.

After the last cargo run, at 4:10, the plane made a final, low pass, wagging its wings in farewell.

Cooley knelt in the door and waved as the plane roared over the spot, banked, and then turned for home. “A few of them glanced up from retrieving the cargo. Some of them waved back.”

This was August 5, 1949, the blackest day in the history of the U.S. Forest Service smoke jumpers. During the next 20 hours, 13 men were to die, the victims of wildfire -- nature on a rampage.

August 5 was hot and crackling dry at the smoke jumper base in Missoula. That summer had been one of the driest in the history of the West, and the thunderstorm that had passed over the Rockies the night before had left little moisture. It had, however, left a line of fires, started by lightning, on the region’s timbered slopes.

Most of the 135 jumpers stationed in Missoula had been dropped on fires when the base dispatcher received a call from the Helena National Forest at 1:50 p.m. Helena asked for 25 men to fight a fire on a ridge above Mann Gulch, a long gully draining from the northeast into the Missouri River in the “Gates of the Mountains” area near Helena.

Only one plane was available, however, a C-47 capable of carrying 16 fully equipped smoke jumpers. When the alarm sounded, the first men on the jump list clambered down from a roof repair job on the base headquarters and began loading the “gooney bird” parked on the runway apron.

Into it they passed tools, rations and five-gallon water cans -- enough for a capacity load.

Bob Sallee was 21 years old that summer and Mann Gulch was to be his first fire jump. He tells of the events of August 5:

“We finished pushing the equipment to the front of the plane and then began to suit up. Man, it was hot in that jump gear. That, and the pre-jump jitters worked together, I guess, so by the time Rumsey had strapped on my ‘chute and I helped him with his, we were soaked with sweat.

“Rumsey and I talked it over. We decided that since we didn’t know the other men on the crew too well, we would stay together, try to jump on the same stick and work together on the fire. We were the first two on the plane and crawled up to the front where we could sit on the gear and watch the other men come aboard.

“Dave Navon climbed in right after and sat down next to us near the door to the pilot’s compartment. He was older than Walt and myself, about 28, and a first year smoke jumper too. Mann Gulch was his first fire jump, just like it was for most of us. But he’d jumped before, in the Army.

“The rest of the crew shuffled on and dropped down on the fire packs or the floor. Earl Cooley, who was going to select the jump spot and drop the cargo, was the last aboard, following on Wag Dodge who was going to be fire boss.”

Cooley had been in the dispatcher’s office when the call came in from Helena. After the alert sounded and as the men were loading the plane, he had waited until the dispatcher had completed the smoke jumper request form and then pinpointed the fire on a map hanging on the office wall. This was familiar business to Cooley. He had been one of the first two smoke jumpers to drop on a fire when the organization was formed nine years before.

As the pilot turned over the engines, Cooley walked out of the office, across the apron and boosted himself aboard.

Cooley: “I hadn’t had time to see who had been at the top of the jump list, and this was the first time I knew who was going on the fire.

“Wag was sitting right next to the door as we took off. He was holding onto a cargo strap and just looking out. Wag always was a quiet fella, like a lot of men brought up in this country; but he was a good man in the woods where he’d worked most of his life. He was an old hand on fires too, started jumping in ‘41.

“Bill Hellman, the squadleader and Wag’s second-in-command, was right next to him. Bill was talking it up and trying to calm the nerves of Hank Thol, a new man who was from Bill’s home town of Kalispell. Hank was a hard worker, taking after his dad who was on the staff of the Flathead Forest.

“I remembered that Hellman shouldn’t have been aboard that day; it was his day off but he had stuck around hoping that a fire like this would turn up so he could earn a little overtime. He needed it, married and with a kid on the way. He was going to the university in the winter too.”

Phil McVey and Bob Bennett were watching familiar landmarks slide past their windows. McVey was from Babb, a small town near Glacier National Park, and

Bennett, although a southerner, was a forestry major at the University of Montana in Missoula.

Marvin Sherman and Leonard Piper were two others. Both were University of Montana students drawn into the jumpers for the same reasons, an exciting job that paid good summer wages of \$299 a month. This was their first season and their first fire jump.

“The rest of the crew was as varied as you’ll find in the jumpers at any time,” Cooley comments. “Adventurers, wanderers, Montanans, strangers, we get ‘em all.”

And then there was Eldon Diettert.

He was a Missoula boy, the son of a professor at the University of Montana where Eldon was majoring in forestry. Cooley knew the family even before Eldon joined the smoke jumpers: “Mann Gulch was his first jump and that day was his 19th birthday. Eldon sat next to me during part of the trip and told me about the family celebration he was going to miss. He reminded me to call his mom and tell her where he was. I said I sure wouldn’t forget and, in fact, I’d probably eat his cake for him.”

The previous night’s thunderstorm had created turbulent air. The 40-minute flight is remembered by Sallee as “the roughest I ever took. Several of the boys were airsick and one, Merle Stratton, almost passed out from the bouncing we took. By the time we got near the fire it was obvious that he wouldn’t be able to do us any good in the shape he was in so Earl told him not to jump. Rumsey was feeling pretty bad too and wanted to get out of the plane as soon as he could. He made his way to the door so he could jump early. It looked like Joe Sylvia, a second-year jumper from Minnesota, and Navon would jump on my stick.”

At 3:10, Silas Thompson, a second-year jumper from North Carolina, spotted the fire and shouted down the plane to Cooley who recalls: “We circled a couple of times and I remember that Dodge and I commented that it wasn’t burning too fast, that it looked like just a good mop-up job. It was a little big for the jumper crew though and if the wind kicked up they might have a tough time holding it. But ground men were on the way in and the jumpers would be a good holding force until reinforcements made their way to the fire by truck and boat down the Missouri.”

The C-47 was circling a fire that was from 50 to 60 acres in size. As the jumpers watched, it was spreading slowly northeast on top of the ridge between Mann Gulch and Meriwether Gulch, fanned by gusty winds blowing along the ridge from the Missouri River, about a quarter mile away.

Sallee and Sylvia peered through a window near the front of the ship. Sallee thought that the fire was big but he had fought bigger ones near his home in Idaho. “The terrain and fuel type were different than I was used to though. Down in the bottom of Mann Gulch and up the other side - - to the northwest - - there were open stands of ponderosa pine and what looked like heavy grass. And it was steep.”

Sallee hit the ground hard. "Because it was so hot, almost a hundred degrees, the air was thin and I came piling in. I shucked off my harness, helmet, jump pants and coat and then got off to the side of the clearing with the rest of the crew as the cargo was dropped. Dodge was limping as he walked off the jump spot." Dodge had bruised his knees and elbows on a grass-covered rock when he hit the ground.

The jumpers had landed downwind from the fire and more than a mile from the river. The fire was thus in front of them and to their left, on the ridge top, as they faced down the gulch to the river watching the plane pulling out from its cargo passes.

As the jumpers began breaking open fire packs and distributing rations and tools, they heard a shout from the ridge, near the head of the fire. Dodge told Hellman to follow him with the crew when the men were equipped. He strapped on a full canteen, grabbed his fire fighting tools and hiked up the side of the gulch to the ridge where he met fire guard James O. Harrison.

Harrison, although only 20, was a relatively old hand at fire fighting. He had spent the previous two summers with the smoke jumpers and in 1949 he was back on the ground. Harrison was a forestry student at the University of Montana and was rounding out his practical experience in the woods by working on the Canyon Ferry Ranger District of the Helena National Forest.

Harrison had been instructed by District Ranger J. Robert Jansson to begin walking a fire patrol at 11 that morning along the Missouri from his cabin at the mouth of Meriwether Gulch. He had walked up-river, away from Mann Gulch, for just over an hour when, from a high point on the trail, he saw the smoke.

He probably tried to radio the fire's location to Canyon Ferry at 12:15 but was unsuccessful, thus delaying detection by 10 minutes. He decided to go to the fire, passing his cabin on the way.

As Harrison trotted back down the dusty trail, he heard the buzzing of the forest patrol plane and watched it for a few minutes as it circled Mann Gulch. Realizing that the forest headquarters now knew the fire's location, he didn't attempt to radio his message when he reached his cabin. Instead, he tore a page from his Forest Service diary and with a pencil stub wrote, "Gone to the fire, Jim."

Harrison tacked the note to the cabin door, shouldered his packsack and then began his long climb.

From their vantage point at the head of the fire, it was obvious to Dodge and Harrison that, from a safety standpoint, this was not the best place for the jumpers to begin an initial attack. Fanned by the wind from the river, the fire was advancing steadily along the top of the ridge between Mann and Meriwether Gulches and was creeping down into Mann Gulch itself. As Dodge and Harrison talked, a spot fire began smoking up-canyon from them, an eighth of a mile from the main fire. If they began to fight fire here, they would be in the path of the flames.

They started down the route Dodge had come up and in a few minutes met the jumper crew with Hellman in the lead. Sallee: "Dodge was shook up, probably because of the winds. I was sure in my mind that he wanted us out of there."

Dodge instructed Hellman to take the men down the slope, across the gulch and to the north side of Mann Gulch, away from the fire. They should then proceed down the gulch to the river on a contour that would take them into the next drainage as they hiked. The jumpers, Dodge decided, would attack the fire from the bottom, the upwind side.

The crew stepped out behind Hellman. Dodge and Harrison returned to the jump camp where they obtained water and rations, then followed the crew's trail. At 5:40, they overtook the column. Dodge took the lead and Harrison fell in behind him as they resumed their hike to the river.

District Ranger Jansson was trying to find the jumpers. After spotting the fire from the patrol plane, he had returned to forest headquarters in Helena and requested jumpers since Mann Gulch was virtually isolated. Sixteen men were too few for the fire he realized and, after completing his call to the jump base, Jansson requested 50 local fire fighters from the Helena Forest headquarters. Only 19 were available in Helena, however, so at 2:20, he left for the fire with 10 men in a stock truck. His assistant ranger followed with the other nine.

After a 15-mile truck ride and then another six miles by boat, Jansson and his crew reached the Meriwether campground landing at 4:30. He told his assistant to take the crew and proceed "up Mann Gulch Trail, break out on top of the ridge between Mann Gulch and Meriwether, and hold as much of the fire as possible on the ridge."

Jansson then returned to the boat and drove it down river to the mouth of Mann Gulch in order to scout the fire. There was too much smoke to see anything from the river so he nudged into shore, tied the boat and at 5:02, began walking up the gulch. He was trying to spot the jumpers near the source of the smoke, high on the ridge to his right.

By 5:15, he had reached a point where the fire, carried northwest by a shift in the wind, had jumped in two places from the ridge on his right to the ridge on his left. The spots were burned over and barely smoldering but on his left, the north wall of the gulch, he could see flames licking through the excelsior-like cheat grass and starting to crawl upwards, toward the ridge.

As he watched the fire spread, Jansson thought he heard voices further along in the gulch bottom.

He continued walking for another hundred yards and then waited for a minute or two. He didn't hear anything further and determined that the earlier sound had not been voices but the pop of flames.

It was 5:20 when Jansson discovered that the fire had jumped the gulch again, this time behind him. He was cut off from the river on an island of grass and trees surrounded by fire.

There was only one way to escape -- run through the flames.

Holding an arm in front of his face, Jansson skidded and slid down the gulch and through the smoke. He was within a few feet of the base of the fire when he fainted from the smoke, exertion and holding his breath. His momentum carried him downhill and he rolled the last few feet to safety.

Jansson came to a few minutes later, stumbled down to his boat, started it and headed upriver for Meriwether. Before he reached camp he met Forest Supervisor Moir who was going to the fire. When he learned that the fire had "blown up," Moir left for Helena to make arrangements for more men and equipment. He ordered Jansson to set up a base camp at Meriwether.

Neither was aware of the tragedy that by now had taken place in Mann Gulch.

Rumsey and Sallee, who were carrying crosscut saws, were at the end of the line of jumpers when the flames jumped the gulch in front of them and began to advance up the north ridge.

Dodge halted his crew and ordered the men to double back, angling toward the top of the north ridge. They turned, and Sallee and Rumsey were now near the head of the column, followed by Navon who was carrying a five-gallon water can in addition to a shovel. Dodge scrambled up to take the lead. The crew started climbing the slope.

Rumsey: "The fire had me worried but the others didn't show concern." And Sallee remembers that it was steep. "We were all younger than Dodge but we had a hell of a time keeping up as he trotted through that timber."

The jumpers were hiking from a fire that now was closing in on three sides. From its point of origin across the gulch, flames had crept, leaped and run, forming a crescent-shaped wall of fire ahead of them, behind them and to their right in the gulch. The only unburned area was the slope on which they were climbing to the ridge.

The crew had struggled 1,500 feet toward the top. By now, the flames were only 500 feet away, and leaping toward them. Dodge had to shout, ordering the men to drop their tools.

Rumsey: "Sallee and I dropped our saws as soon as Dodge gave the order. Navon kept his tools. As I moved out again after Dodge, who was angling up the slope, Navon was taking pictures of the fire. I told him to unload and come but he didn't. Harrison didn't take off his pack either. I passed him on my way up the slope. He was leaning against a tree nearly exhausted. Then I caught up to Diettert who still was carrying his tools. I told him to give me his shovel to carry, which he did. Then, I threw it away."

They broke out of the timber into a small, grass-covered clearing. Dodge stopped and Sallee, with Rumsey, Diettert and Hellman right on his heels, looked back.

"The crew was strung out," Sallee says. "Some of them just couldn't keep up the pace since they still were carrying tools. Those who were coming out of the

timber about 300 feet below looked like they were right in the fire. Dodge was bending over doing something; I couldn't tell what."

Rumsey: "The roar of the fire was deafening. I could see Dodge's mouth move and I vaguely sensed what he wanted us to do but I'm sure no one really heard him. Sallee and I started up the slope, towards the ridge about 200 feet above us."

Dodge had decided that all his men couldn't outrun the flames. He gasped to those nearest him that they would have to burn off a section of grass and get inside in order to make it through.

Dodge later recalled, "After setting a clump of bunchgrass on fire I tried to start another but the match had gone out. I looked up and an area of about 100 feet square was ablaze."

His plan was to burn off a large section of grass, wait until it cooled and then lead his crew into the center of the burned area. The flames then would burn over and around the men but would not touch them.

Dodge ran to the uphill edge of his escape fire and called to the men to join him inside its blazing perimeter. His only response was from a jumper who panted, "The hell with this; I'm getting out of here." The crew scrambled past.

Dodge crossed his arms before his face, dashed through the waist-high flames and skidded downhill for 30 feet, still calling for his men to join him as he dropped to the ground. As the flames from the main fire passed over, Dodge felt himself "in a big vacuum; I felt suddenly buoyant."

Up the slope, several jumpers were clawing toward the last unburned area, the rocky, slippery ridge.

"Having been on several fires," says Rumsey, "I knew that most fires burned to the ridge line and then stopped. I felt that if I could reach the ridge and go down the other side I would be safe. If I couldn't reach the ridge, I could always duck back into Dodge's fire."

Sallee, Rumsey and Diertert reached the ridge crest.

"I got to the top," Sallee says, "and looked back. Flames were jumping above the trees and the men were falling before the fire got to them. The ridge was solid rimrock, 10 to 15 feet high and straight up, like a cliff.

"The three of us were running along the ridge top, looking for a cleft in the rocks, a low place on the rim, just some way we could get through and into the next drainage. Rumsey found a cleft and squeezed through. I was right behind him and Diertert was just a foot or two in back of me. I got through and ran down the slope.

"About 800 feet from the top I stumbled over Rumsey who was crouched in a rock slide. We decided to wait there and let the fire burn around us. It jumped the ridge and kept coming but it had lost its momentum. The flames were smaller,

only about four feet high as they burned past. And then I realized that Diettert wasn't with us."

He'd died on the ridge. The violent updraft from the pincers of flame on three sides had sucked the air from the slope and fire poured into the vacuum. As he had started through the rock cleft, a blast of heat seared the ridge. He collapsed and rolled down the slope to where the other men had dropped.

Hellman somehow made it to the cleft and squeezed through just as the wall of fire hit the crest. Horribly burned, he staggered through and stumbled down the slope until he collapsed, just a hundred feet away from Sallee and Rumsey in the rock slide.

The main fire burned in the area for five minutes and by the time Dodge was able to sit up in his retreat and look at his watch it was 6:10.

Struggling to his feet, he heard someone calling from down the slope. It was Sylvia, and Dodge found him 200 feet from the rescue fire, stretched out and gasping for breath on a table-sized rock. He was burned on his hands, legs and face but assured Dodge that he was all right and urged him to care for the other members of the crew.

Dodge helped Sylvia remove his boots, made him as comfortable as possible, and then started up the ridge.

On top he met Sallee who told him that Rumsey was safe and caring for the badly injured Hellman.

The area was filled with smoke and they were unable to see any other jumpers. They yelled but there was no response. Then they started into the smoke to look for bodies.

Sallee: "We found several. Some of them weren't burned too badly but blood had dried below their nostrils. I guess it was caused by their lungs burning out."

Because of the burns on his feet, Sylvia could not be moved to where Rumsey was nursing Hellman. Dodge told Sallee that they would leave the injured men and go together to seek help. Sylvia was not badly burned, the foreman said, and it appeared that he would survive until help came.

Dodge felt that the young jumper was too upset to tend to Sylvia. And Sallee was in fact unnerved. This was his first encounter with violent death and he was unprepared for it.

Also, Dodge now was beginning to limp badly from his jump injury but someone had to get out to guide rescuers back up the mountain. By walking together, Dodge could provide emotional support for Sallee and Sallee could provide physical support to his foreman.

At 6:30, they started for the river through the burned-over drainage where Sallee and Rumsey had found safety.

Two hours later they reached the Missouri and hailed a passing boat. In it was a Helena family on a picnic excursion who made room for the jumpers and took them to Meriwether camp.

There they reported the tragedy to Jansson, who radioed for emergency medical assistance. Sallee was told to stand by. He would have to guide the rescue party to the disaster area since Dodge was limping badly and it was obvious that he would be unable to climb the mountain.

Hellman and Rumsey talked through the long evening. "Hellman was very concerned about the rest of the crew, but little else was said about the incident."

By midnight, their canteens were empty so Rumsey started to the river to get water. As he groped through the gulch he saw lights bobbing toward him and called out. It was the rescue party led by Sallee. Rumsey guided them back to Hellman and at 12:45 a.m. on August 6, the two doctors in the party began giving him plasma.

The rescuers crossed into Mann Gulch at 1:20. Half an hour later they found Sylvia and gave him plasma. At daybreak, the litter bearers started down the mountain to the river, which they reached at 6 a.m.

"Sylvia wasn't burned badly," according to Sallee. "In fact, he was cheerful when we put him on the litter and as we packed him down the mountain. I had a pretty good idea that Hellman wouldn't make it, but couldn't believe it when they told me later that Sylvia died two hours before Hellman did, in the hospital at Helena. I guess it was shock that got him."

At 9:05 on the morning of August 6, the smoke jumper base learned of the disaster. At 11 a Ford Tri-motor airplane was dispatched to Helena with 12 jumpers aboard, buddies of the dead men.

The Ford touched down at the Helena airport at 1 that afternoon and the men got into waiting trucks. After a short, quiet ride they transferred to a boat for the last leg of the trip to the mouth of Mann Gulch. It was late afternoon before they arrived at the disaster area, spread out, and began the grisly search for bodies.

The work continued until noon on August 7, when the last of the 11 bodies on the mountain was flown by helicopter to the boat landing. They were brought by boat and truck to Helena mortuaries, where their caskets were placed by Hellman's and Sylvia's. Then, they were sent home.

A total of 450 men fought the Mann Gulch fire before it was declared controlled on August 10. The final burned area was estimated at 5,000 acres.

Later that month, a board of inquiry comprising Forest Service fire control and safety officers from the western states and Washington, D.C. convened to study the disaster. After hearing testimony of all those involved and walking over the terrain, the officers exonerated foreman Dodge and spotter Cooley.

The board noted that the smoke jumpers are charged with a difficult and dangerous job. They are front-line fighters against wildfire in remote and rugged terrain throughout the mountain west.

Considering the nature of their work, parachuting to attack and suppress forest fires, their safety record is remarkable; in nearly 100,000 fires, rescue and practice jumps since the first fire jump in 1940, only the Mann Gulch jumpers have been killed by fire.

A lethal combination of soaring temperatures, shifting winds and a roaring fire were the killers of Mann Gulch.

After the official hearings, Sallee and Rumsey were put back on the jump list and bailed out to several more fires during the 1949 season. Sallee jumped the following year and then left the project. Rumsey wanted to return but he couldn't since he had to attend summer school. He now is an area conservationist with the Soil Conservation Service in New Mexico and Sallee works only a few miles from the new smoke jumper base west of Missoula.

Dodge, the old-timer, never fully recovered from the shock of Mann Gulch. He jumped only a few times after the disaster and, in 1951, was placed on a Forest Service ranger district in Idaho. He worked there until his death of Hodgkin's disease four years later. His old friends in the smoke jumpers remembered one of his last requests. After his body was cremated, they took his ashes aloft in a Ford Tri-motor and scattered them over a little lake he had loved, high in the Rockies. And then they dropped a cross, fashioned from parts of an old airplane.

The Forest Service has placed increased emphasis on the study of fire behavior and control in the years since 1949. A special fire laboratory has been constructed at Missoula and scientists have developed methods to forecast fire behavior much more accurately than was possible in 1949. Had modern methods of charting wind, temperature and fuel type been applied to Mann Gulch on August 5, 1949, perhaps 13 lives would have been saved.

Since the Mann Gulch fire, the smoke jumper training program has included escape procedures and the use of rescue fires, such as the one set by Dodge. The Forest Service Equipment Development Center in Missoula has designed individual fire-resistant shelters that, had they been available in 1949, might have saved the lives of the crew.

Helicopters and spotter planes now circle dangerous fires while observers radio progress reports to the men below. Fire retarding chemicals now are dropped from planes on hot spots that threaten fire fighters on the ground.

Among the thousands of smoke jumpers who have dropped into the threatened forests of the Northwest since 1949 are men - - their numbers can only be guessed - - who owe their lives to the 13 who died in Mann Gulch.

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