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# CLOUDSUCK

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*Christian Ciech, photo courtesy Icaro2000.*

**Cloudsuck:  
The Life and Death Struggle  
for the  
Hang Gliding World Record**

By Davis Straub

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## *Prologue*

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I fly the way you fly in your dreams.

I have a pair of wings attached to my back. I can feel them there and if I look up I can see them. They are my wings. I feel the air through them and through my body. They might as well be part of my body.

Every action and movement I take is in response to what I'm feeling through my wings, the wings coming out of my back. There isn't any sensation of my controlling some other craft outside of me through intermediary devices. I'm just moving my body around and flying.

I'm a hang glider, not a hang glider pilot. I just fly. There is no craft that I steer. I'm not sitting in some cockpit. I'm out there like Superman in the air with my arms out. I'm not sitting at all, but rather stretched out just the way you imagine it in your flying dreams.

I don't look out a window, everything is all around me and I don't have any obstructions to the view. Wherever I look I see the earth laid out below me and the clouds stretched out above me. My bird's eye view is just that.

My hands grip a horizontal bar (the control bar) in front of and a little below me. Holding onto this bar I move my body around to control my wings. I need only a small part of my muscle power to fly, just my sense of where to move my body to guide my wings.

I know where to find air that is rising and that will take me up with it. I can sense and find the invisible power that is inherent in the warmer air coming from the earth below. I've taken flights over long distances using no more power than my ability to sense the power that is all around me.

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For me and others who share this approach, flying is a personal and an immediate sensation. It's like walking, running, or bicycling. And like these activities, it is a completely normal skill accessible to all human kind.

In the air every second I'm doing something that keeps me flying and keeps me from falling to the ground. Every second I'm making the choice to fly and not to fall. Just as you do every time you go bicycling.



As a society we think that we know a lot about flying. We've got a huge commercial aviation industry. We design and build advanced aircraft for commercial and military, as well as recreational purposes. We have airports everywhere throughout our country. We have a thriving general aviation sector of small aircraft.

While this is a form of flying, it is not what this book is about. I'm speaking to you alone as someone who can make the choice to fly on your own. It doesn't matter what the rest of humankind does, or how our societies are structured. You have the choice to be in the air by yourself, with just your own wings coming out of your back.



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# 1

## *The Prince*

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In early July, 1988, Utah pilot Larry Tudor was setting up in the morning at Walt's Point high above the small wilderness adventure-oriented town of Lone Pine on the eastern flanks of the Sierra Nevada's. The morning sun was strong on the hillsides, promising thermals. He wanted to get off by 9:30, though the lift could be fickle so early in the day. But he needed to get going soon if he wanted to have a chance to set the world record.

On their dry eastern side, the Sierra Nevadas consist of boulders and rubble strewn below the sharp cliffs and cuts of granite. Harsh and barren, it is only near the top that pine trees mellow out the mountain's forbidding nature. But it's the east face that gives the possibility of both early lift and strong conditions from the hot desert floor of the Owens Valley far below.

Southern California hang glider pilots came here to get the big (and therefore also bad) air. The promise of long flights at high elevations was the lure that pulled them away from their coastal hillsides. It was airtime and hang time unlike anywhere else.

Larry was a wiry bird-like pilot out of Draper, Utah, weighing in at less than 150 pounds. Draper is a small burg south of Salt Lake City and north of Point of the Mountain, a popular place for recreational pilots to just hang out in the air. At "The Point" new pilots, including Larry, learned to fly before they moved up to the challenges of the nearby Wasatch Mountains.

While The Point is still a great place to learn, it can be incredibly boring if you have the skills to get high and go far. It's easy for commuters driving by on Interstate 15 to see the paraglider and hang glider pilots just sitting there, parked in midair above the hill, and perhaps wonder what is so exciting about hang gliding. Of course they are absolutely right to wonder—but they don't get to see the whole picture, only the part that doesn't move.

Short, quiet and intense, for years Larry was the star pilot for Wills Wing, a Santa Ana California hang glider manufacturer. He was a perennial member of the U.S. National team. Others were faster at flying the shorter tasks found in a competition, so Larry had never managed to win the World Championships. Nevertheless, by his mid-thirties, because of his cross-country accomplishments, Larry and Tomas Suchanek, the World Champion, were the most respected hang glider pilots in the world.

Wills Wing had asked Larry to move from his beloved Utah, to live in the detested Southern California. He couldn't stomach living under the blanket of polluted air in a place that was far beyond crowded. Still he didn't have much choice, if he wanted to work for the premier hang gliding company in the United States. Hang gliding in America got its start in the brown hills of Southern California, and most of the U.S. market for hang gliders was still in California. The hills and mountains provided the easy and accessible launches for much of the hang gliding community.

Larry wasn't the only thin-as-a-rail hang glider pilot. It seemed as though the sport selected for his body type, since little pilots were the ones who could stay up when the beefier guys went down early. The big boys pulled too hard on their wings, twisting the thin aluminum tubes and Dacron out of shape and hurting performance.

Known as the Prince for his dark moods and go-it-alone stance, Larry was the prince of a lonely sport, long distance flying. While others were put off by his intensity and single-mindedness, I found him clever and a great source of hang gliding lore. He had disdain for the politics surrounding the sport, but in that he wasn't alone.

Larry's personal qualities were well matched to those required for cross country flying. Though you absolutely need help from many others when you are on the ground, in the air you alone have to muster the will to go on when you are scared and tired. You know that you are riding a force indifferent to your existence, something that can overpower you.

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While this type of flying is often the most pleasant experience in life, sometimes it scares you to death.

Larry had been the first pilot to fly two hundred miles, in 1983. That wasn't the world record—but only because he couldn't prove that he'd done it. You've got to carry the necessary recording equipment in order to prove to the Swiss-based Commission Internationale Vol Libre (CIVL) of the Fédération Aéronautique Internationale (FAI) that you indeed accomplished the flight. In '83 the recording barographs were bulky and unreliable ink-and-paper affairs designed for the cockpit of an airplane—hard to stow in a hang gliding harness that was nothing more than webbing with a cloth cover to support the pilot's body.

Before 1980 it would have been very difficult to fly a hang glider two hundred miles. The pre-1980 gliders were glorified kites, "Rogallos" and their variations, and didn't much resemble wings. With the advent of the UP Comet in 1980, everything changed for the better. The "high performance" gliders of 1979 became overnight the next generation of training gliders.

It wasn't until the summer of 1986 that a hang glider pilot would officially approach a two hundred-mile flight, when Canadian pilot Randy Haney proved he had flown 199.8 miles south along the Rockies from Golden, British Columbia deep into Montana. From the launch high above the Kicking Horse River, Randy had climbed up the face of Mount Seven to get above the knife-edge ridge line of the Kootenays. Once above the top he was on his way along the east side of the valley that nurtures the headwaters of the Columbia River, and then down into the U.S.

Two years later in June, Wyoming pilot Kevin Christopherson, launching from Whiskey Peak, a desolate mountain near Rock Springs, Wyoming, flew 224 miles. Whiskey Peak sticks up into strong west winds and assures the pilots who launch there that at least the first part of the flight will be very exciting.

The air is especially turbulent and scary in the places where Larry, Randy and Kevin were flying. Early hang gliders required big air if you wanted to go far because they had relatively poor performance. They'd gotten much better by the 'eighties, but hang glider pilots were still looking for the "biggest air" places so that they could go the furthest.

Launching from high mountains over skinny valleys in windy conditions in the middle of summer meant you got an extremely heady mix of mechanical and thermal turbulence. You got very high, and you could go quite far—but there could be a big price to pay. Sometimes your glider got flipped, you broke it when you fell into it, and you had to throw your 'chute. You hoped the 'chute would open in time, and that it wouldn't tangle in the wreckage of your glider.

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The Owens Valley is known to many as the valley whose water was stolen by the Los Angeles Water Department in the early twentieth century. With its dry desert conditions, and with the high Sierra Nevadas to the west and the starkly barren White Mountains running down its eastern side, the Owens has a reputation as one of the strongest soaring areas in the country. The lift there is often turbulent and, for a tiny little hang glider, often very scary.

It was a month after Kevin's Wyoming flight, in early July 1988, that Larry launched from Walt's Point at Horseshoe Meadows on the western rim of the Owens, above Lone Pine, California. He was the first to launch that morning, when there was barely enough lift to stay airborne as the sun shone on the eastern faces of the Sierras. During the morning Larry flew north along the crest of Sierras. The Sierras offer early thermals over forested hills with lakes and meadows below all the way up through Mammoth Lakes, Yosemite, Lake Tahoe and further north. But the sun crosses over to the west as the day goes on and before reaching Bishop pilots need to make a run over the Owens Valley to the Whites and the better lift on the western facing hillsides.

While Larry was over the Whites his flying buddy Geoff Loyns, another world record holder, landed stating that it was "too turbulent" over the White Mountains. Jim Lee, a top Wills Wing-sponsored competition pilot from New Mexico, also landed early because he thought it was too big and too scary over the Sierras and over the Whites. Larry reported back that he did not find it "dangerous" and continued on.

The Whites just don't last that long—they end abruptly, 35 miles northeast of Bishop at thirteen thousand-foot Boundary Peak. After hugging the edges of Whites and then getting high over their peaks, Larry was left facing a flat desert. Before he left Boundary

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Peak he had made the decision to head northeast over difficult desert terrain with no paved roads, toward the Shoshone Range of Central Nevada.

Still things had not gone all that smoothly for Larry. Early on, he made the unhappy discovery that all the oxygen had leaked out of his bottle. Without oxygen, he would spend the first five hours soaring at between sixteen and eighteen thousand feet above sea level, well above the danger zone for oxygen deprivation. Larry's mental clarity and stamina would be significantly impaired throughout the flight.



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He had also managed to lose his radio antenna. Without use of his radio Larry couldn't keep in contact with his chase crew. Geoff, after he landed, joined Larry's driver in the truck as they drove out toward where they thought Larry must be flying.

As the day got late and Larry realized he had actually achieved the new world record, he had a new worry. To verify a world record flight requires the signatures of a pair of witnesses. Larry spotted some ranch buildings from the air and hoped to find someone home. As he got low he saw a car stopped by the side of the highway. He started yelling to get the occupants' attention; they didn't see him over their heads, but went to look in the nearby pasture thinking that they'd find someone there. Yelling as he came in to land in that pasture, Larry was able to finally get the attention of the stunned witnesses and later they did sign his paperwork and give him a ride to a phone. It was a good thing they were there —as it turned out the ranch was abandoned, as is so often the case in Nevada.

After flying for almost ten hours Larry had ended up 35 miles north of Austin, Nevada, pegging the new record at 243 miles. Geoff had chased him most of the flight, but gave up and turned back just before he and the chase driver got to where Larry landed. Larry's friend Joe Bostik, who had flown 226 miles for an unofficial record the year before, came the next day in his Cessna to retrieve him.

Larry had set a world record, but he really wasn't all that happy. Wills Wing, his sponsor, was offering \$2,000 for the first three hundred-mile flight. Larry, like all hang glider pilots, needed the money, and he had been trying for two years to fly three hundred miles to a declared goal. Yet that goal and distance world records would continue to elude him in 1988.

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It was two full years later that Larry arrived at a much different location in his quest to fly at least three hundred miles. Hobbs, New Mexico is in the high flat desert of the Permian Basin at about four thousand feet above sea level, just to the west of the open plains of west Texas. You can't launch from the side of a mountain at Hobbs, because there aren't any nearby. Instead pilots are towed up behind a truck from a seven thousand-foot long concrete runway at a former World War II military airbase.

Hobbs is an oil town. It has little to recommend it to the casual visitor, unless they happen to be hang glider pilots looking for long flights over flatlands. To the south is Marfa, Texas, a site well known among sailplane pilots for long distance flights and high level competition. The whole area is known for strong winds out of the south and hot days with plenty of thermal activity.



Larry started off July 3rd, 1990 with a big breakfast and the firm conviction that he would break the three hundred-mile barrier. He telephoned his buddies at Wills Wing in Southern California. He talked to them about his 235-mile flight two days previously and the 255-mile flight the day before. In spite of those grueling flights and the long drives back late at night, he was back to try again with a 7:30 breakfast.

He had decided to wait until later in the morning to start the flight as there were high clouds over the mountains 150 miles to the west which portended weak conditions. Larry was right to worry about those clouds so far away. By 11:13 AM cirrus clouds were

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shadowing the Hobbs airport when he got pulled up into the air behind the truck, his towline spooling off a big hydraulic winch. Not finding any lift on the dark ground, Larry had to release from the towline without getting high, gliding for the sunshine a few miles to the north.

This long glide put him down low, really low, far lower than it is possible to stay aloft in a hang glider, but hang on he did at 75 feet above the ground. Just trying to find a safe landing area as he passed over mesquite, oil rigs and power lines, Larry hung on for five minutes. Then incredibly he found a little wisp of lift and started to climb up, circling tight to stay in the skinny thermal.

Sometimes starting so low and surviving makes you feel you can overcome great difficulties and continue on. So the next time you get down below three hundred feet — well, you already know that you've been able to get up from much lower, so it must be possible now.

Larry soared up to over nine thousand feet and then, scared from his low save, he flew conservatively, not racing but trying to stay high. He knew that the winds would be stronger at the higher elevations; if he could just stay high he would be carried by the winds toward his goal to the north-northeast. Larry rarely raced, and his strength was staying up when others went down. Getting so low at the beginning made him want to stay as high as he could and not take any chances by going too fast between thermals.

It took a few hours before he was able to find strong lift. Once in better lift he was able to climb to over thirteen thousand feet. By then he had begun to recover psychologically from the difficult low save at the start of his flight and realize that maybe he should start gliding faster between thermals, otherwise he'd never make his goal.

But, five and a half hours after the start Larry was still only 175 miles from Hobbs. He was over Texas now, and just south of the Canadian River. It was an area of few roads, where only a couple of days earlier Larry's flying buddy, Ted Boyse, had been lost for two days. Larry contemplated landing at Adrian on Interstate 40. But the strong lift of a good thermal lured him north —even as he realized that there were fifty miles to cover before the next road.

Just when it made retrieval the most difficult, Larry indeed encountered strong sink and once again found himself getting low and in trouble. Sinking lower and lower he finally found a patch of light lift when he most needed it. He wouldn't be spending the night out huddled in his harness after all.

He climbed back up to just below the clouds over Channing, Texas and then back to thirteen thousand feet at Hartley, but it was getting late in the day, the cumulus clouds were disappearing, and he was still just 230 miles from Hobbs and a long way from his declared goal of Elkhart, Kansas.

Drifting along in light lift with the south winds, not getting high, and crossing near Stratford at only seventy three hundred feet, Larry was again thinking he would be landing soon. Still, there were bits and pieces of light lift that let him hang on and continue north toward Oklahoma, and Larry is known for his ability to keep going when others give up. He continued to climb and hang in this light lift, and as he reached the Oklahoma border Larry finally knew he might have a shot of making Elkhart.

Forty-five miles south of Elkhart, Larry had to push a little against the southwest winds and crab crosswind to keep tracking toward his goal. Oklahoma is very thin at that point, and by the time he got to Eva, Oklahoma, it looked as though Elkhart was truly possible. The thermals were all gone now but the air was smooth as glass —much better than air that might be sinking and taking the glider with it. Even though he wasn't going up, he also wasn't going down very fast —by keeping a light touch he could milk the last few miles of distance from the altitude that remained.

At 8:30 PM Larry arrived at Elkhart with three thousand feet to spare, a comfortable margin perhaps, but only six minutes if his glider had been sinking at five hundred feet per minute. He said later that he felt he could have gone on further, but decided he wanted to land at his goal.

Again, Larry had to find witnesses. As he got low and hovered down in the stiff southwest breeze, he started yelling for help. This time there were plenty of nearby witnesses —he had landed next to a Pizza Hut.

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So finally the deed was done. Someone had flown over three hundred miles. Larry had written down the place he was planning to fly to—farther than anyone had ever flown a hang glider—and that was exactly where he flew. He had taken four years to accomplish the task, and now his goal had been reached.

Now every hang glider pilot could see just how far someone could go fly this concoction of Dacron and aluminum tubes. While many people would just visualize hang gliders as boating back and forth a few hundred feet over Point of the Mountain or a cliff on the California coast, what they couldn't see was how far a human on a small pair of wings could really go.

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Larry wasn't the only hang glider pilot at Hobbs in 1990 looking for a world record. On July 1st, two days before Larry broke the three hundred-mile barrier (and on the day he flew 235 miles), Kari Castle, a tall, blonde, athletic California pilot set the Women's World record at 181 miles. In 1988 Kari had set her goals: break the Women's World record, become the Women's World Champion, and get on the U.S. National team. She would ultimately achieve all these goals and more.



Kari lives just up the hill from Bishop, in the Owens Valley, and in July 1991 she was back at her home site. She took off from Walt's Point, the same launch that Larry used to set his 243 mile record, and flew 209 miles north into Nevada. This record would stand for the next eight years.

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Over the next few years Larry returned to Hobbs, continually pushing to better his own record, but without success. Frustrated with his failed attempts in New Mexico and Texas, he and a few friends in the summer of 1994 headed north to Red Desert, Wyoming,

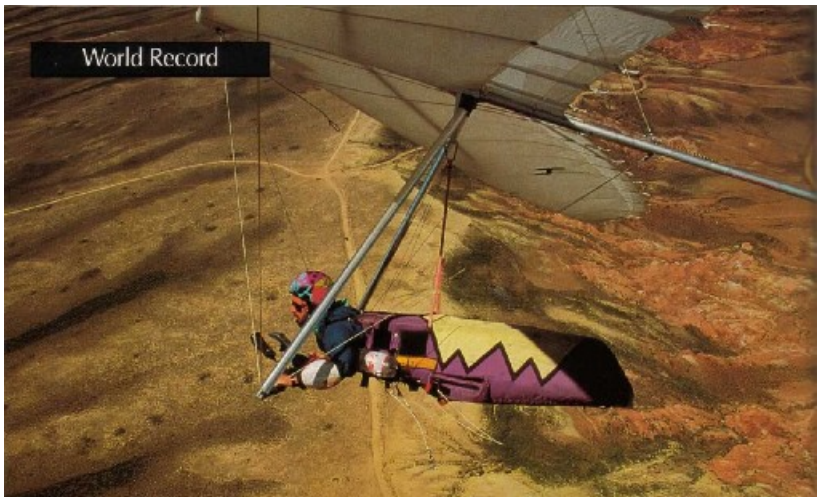
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sixty miles west of Rock Springs on Interstate 80. Red Desert is not much more than a service station; you'll have difficulty finding it on any map.

Camping far from any reasonably sized town, Larry, his fellow pilots and crew brought provisions for a month-long stay. They were hoping to benefit from the strong west winds the region was known for. On June 30th, Larry finally got a break from a week of bad weather and towed up from just north of Rock Springs, on the west side of the Continental Divide. He flew east into the Green Basin where the Continental Divide splits in two, allowing him to cross it twice.

With the winds predicted to be quite strong —thirty eight miles per hour at eighteen thousand feet —Larry was able to fly at ground speeds greater than 80 mph in between the times spent circling and climbing in thermals. Hang glider pilots are limited by FAA regulations to under eighteen thousand feet unless they have received special permission, so Larry would continually have to leave lift before getting as high as the thermals could take him. Each time he would glide east toward the next patch of lift.



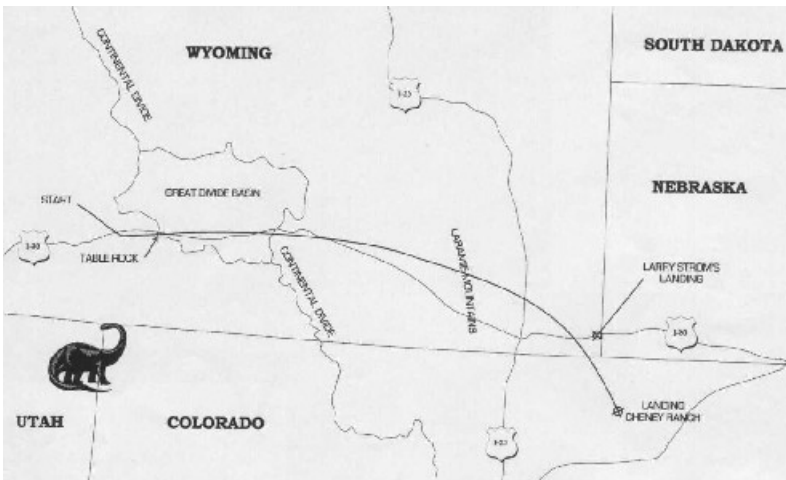
Crossing the Continental Divide for the second time, Larry stayed north of Interstate 80. North of Elk Mountain he headed east across the grasslands toward the Laramie

Mountains. He drifted low in light lift letting the winds take him to the mountains, then climbed back to eighteen thousand feet on their lee side.

East of Cheyenne, the winds had turned and were now blowing out of the northwest. Larry headed southeast to keep going downwind and get the longest distance. On the ground his chase driver reported strong winds coming out of the east. This would mean a headwind if Larry got low.

Larry crossed into the northeast corner of Colorado south of Nebraska and was soon over the Pawnee National Grasslands. As he wrote later about his flight, "It was easy to imagine when Plains Indians lived here. Cheyenne, Arapahoe, Pawnee, and some Sioux Indians all hunted buffalo and antelope here."

At 303 miles out Larry hit the headwind that his driver had reported and it was accompanied by strong sink. He would lose almost nine thousand feet over the next five miles of gliding, and his flight would stop at 308 miles. It was the longest flight in the previous four years, and only the second flight ever over three hundred miles. As it turned out, this would be the last three hundred-mile flight for a very long time.



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Larry had gone to Wyoming to find strong winds and strong lift. He got both, but what he didn't get were strong winds in a consistent direction for a long distance. He outran the winds of Wyoming and the Rockies and entered the weather patterns of the green Central Plains. He came upon a stationary front with its east winds, and that's what kept him from going any further.

Larry showed everyone who was paying attention just how far someone could fly with nothing more than a hang glider.. His flights took us from the era of Rogallo and pilots on swing seats to the era of high level competition and great distances.

For over a decade neither Larry himself nor any of the other top hang glider pilots around the world could approach Larry's records. During the last part of the eighties the world record had been broken every two years —then suddenly no one could do it. Repeatedly, flights were cut short before the pilots could fly far enough. All these attempts required significant organizational efforts and grueling hours in the air, repeated day after day.

Hang glider development didn't stop just because no one could beat Larry. Throughout the nineties the performance of hang gliders incrementally improved as designers continued to make improvements to the basic 1980 model. Almost all these changes were driven by organized competition, which demanded better glide and climb rates, often at the expense of comfort and controllability.

In the late 'nineties the top competition gliders lost their upper rigging and gained carbon fiber cantilevered internal crossbars that held up the foldable wings. Getting rid of external tubes, cables, and luff lines reduced the drag and thereby improved the glide performance (and reduced the handling). Competition is a matter of very slight advantages over your competitor, and any improvements at all were greatly appreciated by those who were able to go just a little bit faster than the next guy.

Larry Tudor was the only person to have flown a hang glider three hundred miles — and he'd done it twice. When he did it few hang glider pilots had ever flown a hundred miles. Only a dozen or so had gone over two hundred miles. Most of us hadn't even the

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slightest hope of matching Larry's record. He had flown too far, and just about everyone thought catching him would be impossible.

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