

# A Timeless Sky

by Guy Gosselin

In 1938, Lew Barringer made what is generally recognized as the first sailplane wave flight in North America. At the time, he and others were exploring ridge conditions in the east central area of New Hampshire, when he found himself on top of the clouds just west of the North Conway Airport. This was evidently a wave off the Moat Mountains and is worthy of mention due to its obvious proximity to the airport. It took 28 years before another wave flight was made in the area, when in October, 1966, a small group successfully explored the major wave system 20 miles to the north in the lee of Mt. Washington. A number of flights were made over 20,000 feet, with the late Tom Richter reaching 26,200 feet in a 1-26.

Mt. Washington (elevation: 6228 feet msl) is just short of being the highest peak east of the Rockies and has a classic wave pattern. The air is relatively dry, reducing the frequency of heavy cloud cover and window penetration problems during wave conditions. Risk as the result of wave window closing is further minimized in that the range is located very close to the Atlantic coastal plain, permitting downwind runs

of over 100 miles out into the clear, flat country to the east. Unfortunately, there is one small range (Wildcat Mountain) just downwind of Mt. Washington. Flying below the level of this mountain usually results in extreme rotor turbulence coupled with inhospitable terrain.

Guy Gosselin, the author of the following article, is the Chief Observer of the Mt. Washington Observatory. I believe he has created a unique piece of soaring journalism, for seldom are aviation writings graced with such a fine descriptive feel of the actual experience of flight. Keep in mind that this was the man's first sailplane ride (perhaps even his first time in the air) and that he was put into a 2-32 to investigate the ridge-flying aspects of one of the more formidable areas in the country, where once below the ridge line there is absolutely nothing resembling a field for some 15 miles in any direction.

A slightly modified version of this account is appearing in the Mt. Washington Observatory Bulletin.

—Allan MacNicol

The Mt. Washington Soaring Association Incorporated, headed by Allan MacNicol, is a logistic device for the concentration of glider pilots from all over the Northeast at the foot of the White Mountains in New Hampshire. During the October, 1967, Mt. Washington glider encampment, I was a passenger aboard a two-man sailplane, an experience which I shall never forget.

To begin with, the glider — or sailplane — is a carefully constructed piece of equipment (one hesitates to call it a machine) with fewer moving parts, I think, than a revolver. The sailplane impresses me as being almost literally more bird than airplane. Apart from superficial resemblance, the control mechanism of the glider is the only thing that makes it a relative of the airplane. Even then, the motion of elevator and aileron in flight sometimes seems no more than a ripple of feathers. A most significant difference is that the sailplane is unmistakably out of its element when it is grounded. It is tipped and clumsy, and must be pushed, pulled, and prodded to change its location. One is reminded of a gull awkwardly negotiating a pier, or a hawk staggering through the underbrush. The jet fighter, by way of comparison, is a flawless expression of the human intellect, and it is poised and lethal whether it is surpassing the speed of sound or parked in the darkness of a hangar. The sailplane is not so useful, not so self-conscious; but, when aloft, it and the gull and the hawk exhibit an affinity with the air that the jet can only tear through.

Mt. Washington and the northern peaks are so situated that the prevailing west and northwest winds strike them on their steepest flank. In following this slope upward and over the ridge, the winds accelerate in keeping with the so-called Bernoulli principle, or venturi effect. The result of this on the lee side of the mountain is the creation of a wave or, more accurately, a series of waves that sometimes stretches far to the

east. The wave also intrudes vertically into the atmosphere, with the height of significant intrusion dependent upon the initial speed of the wind and other parameters. The crests of these waves are marked by the beautifully-layered lenticular clouds that characterize the passage of certain frontal systems over our mountains. Dwelling deep in the troughs of the waves is the potentially dangerous rotor cloud. Often the wave exists without these typical clouds giving it away. Frequently, the rotor is no more than a wisp, boiling and rolling end over end. The first rotor is usually just west of Wildcat, and it sometimes assumes awesome proportions. In a quick glance you are apt to miss the rolling action of a rotor cloud, but if you see a good one, you are bound to be impressed. When pointed out to even the most experienced of pilots, an awe and respect is immediately evident. When conditions are just so, parallel bands of clouds extend eastward for many miles. The open spaces between these bands go under the name of "windows" in the language of the initiates.

A sailplane pilot must develop a feeling for his craft and the air currents that will affect it. In addition he must be able to read clouds and topography and assess their relation to what he knows about wave motion in the area he finds himself. He may even say that he feels safer over the mountains in a glider than he would in a powered aircraft. There may be some truth to this, because many pilots of powered aircraft refuse to fly at all in the lee of Mt. Washington. The Wildcat rotor can drag you down at better than a thousand feet per minute when it is in good form, and, when you get out of it, there is no runoff, nothing but a funnel of trees, steep ledges, and — for the fortunate — the old Glen House fields at the foot of the mountain. The glider pilot's rapport with the elements can be worth his life since he has no horses to do his bidding if he gets into difficulty. About the only

*Steve du Pont in the ex-Schreder HP-14 over Mt. Kearsarge, southeast of Mt. Washington. The wind here is north or northwest, with the glider on approximately a northwest heading. The secondary window is very evident (center), while the primary roll cloud is upwind of that (right above the canopy). In the far left center background is Carter Notch, and to its immediate left is Wildcat Mt. (which would be the location of the primary wave). The photo was taken by Karl Kretchmer from the cockpit of his Ka.8.*



thing that doesn't concern him is running out of gas.

On the 28th of October, I drove to North Conway as the result of an informal invitation from Allan MacNicol. We had gathered a little information for Allan at the Observatory to help in the prediction of favorable wave conditions, and he, along with a group of glider pilots, had visited the summit during the previous week. In spite of a gift subscription to a magazine on the subject, about all I knew of gliders was gleaned from watching Ballantine Ale commercials.

The southeast end of Wylie Apte's airfield was strewn with gliders and automobiles. With the ships tipped and resting on one wing or the other, a prospective passenger can get the idea that an accident has already happened.

I left my car parked at a barrier on the access road, and in it I left the parka, boots, and mittens I had thrown in previously in a great display of foresight. I intended to return for them if there turned out to be room for me on one of the flights, that is if there were to be any more flights. Three or four sailplanes were wheeling over the field, but I knew that the wind on the mountain was very light and that there had been considerable cloudiness earlier. I wanted to see Mt. Washington from aloft, but I felt that my chances were pretty slim.

Fate, or coincidence, decreed otherwise, however. Malcolm "Mike" Stevenson was in the process of strapping himself into the only two-seater on the field, and the towplane was maneuvering into position for the take-off. After exchanging a hurried greeting, Allan rushed me over and made arrangements for me to accompany Mike. In the time it took to run out the slack in the towline, I climbed in, the harness was adjusted, and the canopy closed and fastened. If I had arrived at the field three minutes later, this article would probably be about wildflowers. As it was, the

afternoon turned out to be a very special one for many reasons.

If there is the slightest bit of humiliation connected with soaring, it is in getting off the ground. One would like to see those long wings give a flap or two, and the craft lurch abruptly into the sky. But, alas, even the goony bird does better, and the sailplane must decorate the end of a tether while a single-engine airplane strains to haul its carcass into the blue. The sensation of being towed is unnatural. The glider feels designed to go with the air, not through it; and when it is pulled along, little vibrations set up in the wings, and the whole bird shudders softly in what would seem to be protest. When the shock and twang of the cable release occur, it is as though the bird has spit out something distasteful, and it is not until then that a ride begins.

We released near Slide Peak. I think, at between six and seven thousand feet. The airplane banked away from us, trailing its towline, and disappeared. Our flight was instantly smoother.

Mike Stevenson was in the group that visited the mountain earlier in the week, but we had exchanged only a few words then, and I was relieved when he reintroduced himself. He's an ex-airline pilot who is also soft-spoken, kind, very considerate, and one of those men who go about their business in a very confident and competent manner. I would also guess that he, and this probably goes for most glider pilots, is a basically sensitive individual. During the tow trip, he described the various instruments to me as I looked over his shoulder, and even apologized about the fact that the canopy was slightly sprung, thereby admitting a slight, whooshing sound that normally would not distract. The sound didn't distract me until much later.

We soared toward the west slope of the cone of Mt. Washington and passed about 500 feet over the western shoulder of the summit. Mike took the 2-32 along

the northern peaks, staying well off on the west side. Several times we made the circuit from Mt. Adams back to Mt. Washington, testing the wind for lift. On occasion we soared so close to the summit that it seemed momentarily possible to reach out and touch the buildings. I hoped that we would be seen by the Observatory crew and photographed, but sailplanes move in silence and no one on the summit stirred for our comings and goings except a pair of motorists. The mountain, incidentally, was dusted lightly with rime, and a potential cap cloud was forming over it.

Mike told me that what we were doing was a first, that no one had ever soared the west, or upwind, slope before. Then I remembered that Allan had mentioned at the field that Mike planned to do something new and that he might not want to take anyone along. He also made some remark to the effect that "when you find out where he's going, you may not want to." But events had happened rather quickly back there, and now it was all the same to me. If there was any danger of mingling with the rocks we skimmed over, it was certainly not evident in Mike's demeanor. Once, when we were losing altitude on a close pass, I suggested that he put it down as close to the Observatory as possible, because I wouldn't want to wish a long litter trip on anyone. His reply was one of shocked surprise that the possibility had even entered my mind. Actually, there were only one or two instances during the entire flight when I was not completely relaxed, and these only occurred when we came up rather close to something . . . such as the ground.

After Mike had exhausted the pioneering potential of the slope, he tried to fight for altitude, but the clouds indicated that the wave was still about a thousand feet overhead, and lift was getting scarce where we were. Above a certain point it was no use trying for more lift, though the presence of another sailplane high above us also testified to the existence of the wave. A cloud bank was moving in on us from the west. Mike gave up and banked away along the ridge. We had already lost altitude on our attempt to ride up into the wave, and by the time we dropped over the edge of Mt. Madison on an easterly heading, the variometer showed that we were now losing altitude at what I considered to be a rather exorbitant rate: more than 700 feet per minute.

The current tossed us about a bit, as Mike had warned, but there was no cause for alarm. It was his purpose to head for the Wildcat secondary wave. We stopped dropping at an altitude somewhat better than 3000 feet (1000 feet above the terrain) and actually began to climb a bit as we passed over the Imp and approached the Moriah range and the lesser Carters. By the time we neared the ridge, we had gained our way back to almost 4500 feet. A search of the ridge disclosed a thermal that looked promising, and Mike swung into it. We made altitude with painful slowness, 50 feet or so per turn. As Mike soared his tight circle, I perceived a hawk beneath us in the same thermal. It was impossible not to feel a certain kinship.

When we had worked ourselves all the way back up to 5400 feet or so, Mike made the decision to cut back toward Madison, where some cumulus activity was taking place. We would probably have eventually made it into the wave by staying in the weak thermal, but it seemed likelier that the cumulus buildup would

provide a speedier route. When we finally reached the edge of the cloud development, however, the drafts pushed us downward, and we lost in a few moments all the altitude we had struggled for earlier. Resigned, we headed for Gorham, where there is a small airstrip.

Throughout our flight, I had watched the tandem joy stick between my knees respond to the manipulations from the front half of the cockpit. There were also two foot pedals that remain a mystery to me and an affair resembling an oversize rifle bolt on the left side of the fuselage that was somewhat ominously labeled "Dive Brake." As we soared over Gorham Hill toward the center of town, I wondered what I would do in that silent bird if anything should happen to Mike. I saw myself doing fairly well until, inevitably, the earth would loom closer. At that point, un-Mittylike, I saw splintering wings and unbending trees. Fortunately, I was able to watch the familiar landmarks of my hometown without lingering too long on dread possibilities.

Mike had radioed our predicament to one of the several gliders in the area, and even before we touched down, there was Allan Bemis' towplane alongside us. We went in downwind so that we would be in the proper position for being towed up again. We touched down and skimmed quickly over the runway, so quickly, in fact, that the remainder soon looked very inadequate. I braced myself for the inevitable crash just as Mike applied the brakes that halted us on the very edge of the field. He had stopped exactly where he wanted, so it would only be necessary to turn the sailplane around in order to be in take-off position. In the few minutes used up accomplishing that task, the towplane had landed, and the cable had been attached. As quickly as we had whisked in, we whisked back out again past a couple of onlookers who were probably the only people in Gorham that knew of our brief visit.

Airborne again, we labored in the slipstream of the towplane. This time we would release in the wave itself at about 7500 feet in the lee of Mt. Washington. When the shock of release again went through the craft, we began rising rapidly. The towplane quickly disappeared below us in the direction of North Conway, and we continued to rise . . . past eight, nine, and ten thousand feet. Now we were really soaring.

The wave was not a particularly strong one, but it was more than enough to make a novice euphoric. Mike guided the ship back and forth in the wave, so that I could feel as well as understand the mechanics of it. Except for some thin cirrus, we were well above all clouds. The White Mountains far below formed a dam that now held back a sea of stratus stretching to the western horizon. The sun, which had been less and less our companion since we left the windward side of the mountain, now shone with splendid brilliance. Deep in the trough of the wave lay the wave's only betrayer, a small, wispy rotor, tumbling over and over.

I accepted Mike's offer of handling the controls; and when my hand closed around the stick, I remembered my earlier thoughts on having to bring the craft down alone. The response of the sailplane surprised me. The slightest touch seemed to produce an effect. Getting the feel of the dive brakes cost us a thousand feet of altitude in a twinkling, but we regained it just

as quickly. I relinquished the controls reinforced in the former assessment of my abilities. The end would still be one of splintering wings and unbending trees.

We soared past 11,000 and 12,000 feet to the safe limit for those unequipped with oxygen. I leaned back and looked upward through the unobstructed canopy and saw another glider way above us at more than 15,000 feet.

When we had first commenced our flight, I was appalled by the manner in which we can take the miraculous for granted. It was demoralizing to realize that a great experience was afoot, yet know that it wasn't completely getting through to me. I longed to reach back into the fifteenth century, grab da Vinci away from his doomed sketches of flying machines, and say, "Come with me, Leo. I've got something I think you'll be interested in." I tried to imagine him in my place. The miracle would not have been lost.

Neither Mike nor I spoke. We were quite alone. In my case there was a curious distortion of perception. The experience was very strange in that I caught myself thinking in terms of a different reality. There was no sensation of flight or motion. Even at the lower altitudes perception had been unreliable. It had been very difficult to judge height, distance, and — in some cases — even attitude and direction; thus my preoccupation with the inhospitable forest. Now the effect was multiplied. Once denied motion, it is impossible to hang onto time. So there you are — suspended, motionless, alone in a timeless sky transfixed by an overwhelming sun that burns only for you. The leak of air past a slightly sprung canopy is the only link with the old reality. It is the only hint that the sun will go down and that darkness will come, bringing with it certain problems if you are still aloft. It is the only connection with what, in this pale, we might call the ultimate reality. I suppose this implies the existence of others. However that may be, in the end it is with the unbending trees that we must reckon.

Even now the sun was preparing to set, and I couldn't believe that we had been gone for almost

two and a half hours. (I had sneaked a reassuring glance at my watch.) The cirrus had taken on a pearly, opalescent quality; and by way of a superlative finale we saw a phenomenon that I had seen only once before, though less perfectly. At a distance of 15 to 20 degrees on either side, the sun was flanked by two sun dogs, bright, miniature suns that shone through patches of rainbowlike iridescence. We headed home, wheeled lower and lower over the airport, and finally skidded to a stop near Mike's mooring berth.

Until I got out of the glider with my ears popping, I had had no sensation of cold. Now I realized that I was chilled to the marrow. Temperature in the cockpit during that afternoon had averaged only a little better than 20 degrees. With my teeth chattering, I helped Mike jockey the glider and attach the tie-down cables. We talked a little bit about the sailplane; then I inadequately thanked and farewelled a man who had shared something he loved with a stranger. In a few minutes I had donned the parka and boots that had lain in the car so uselessly, turned the heater on full, and was shivering my way home.

I said earlier that one would hesitate to call the glider a machine. I would modify that now. It would appear, in fact, that there might even be something very primitive about our concept of machinery, something with its roots way back at the beginning. We've struggled with our environment for so long that we speak only in terms of "harnessing" forces, "taming" elements, and "subduing" nature. The earth is practically powerless against the onslaught of that most perfect machine, the bulldozer. The airways, likewise, have been "conquered," first by the reciprocating engine and now for good measure by the jet, which literally blasts its way from one point to another. What abysmal lack of harmony with the very medium through which we tread.

The glider, in retrospect, is a harmonious machine. As such it is probably a unique machine. I would not be alarmed if it turned out to be the prototype of the perfect machine.