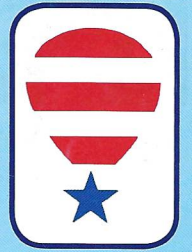


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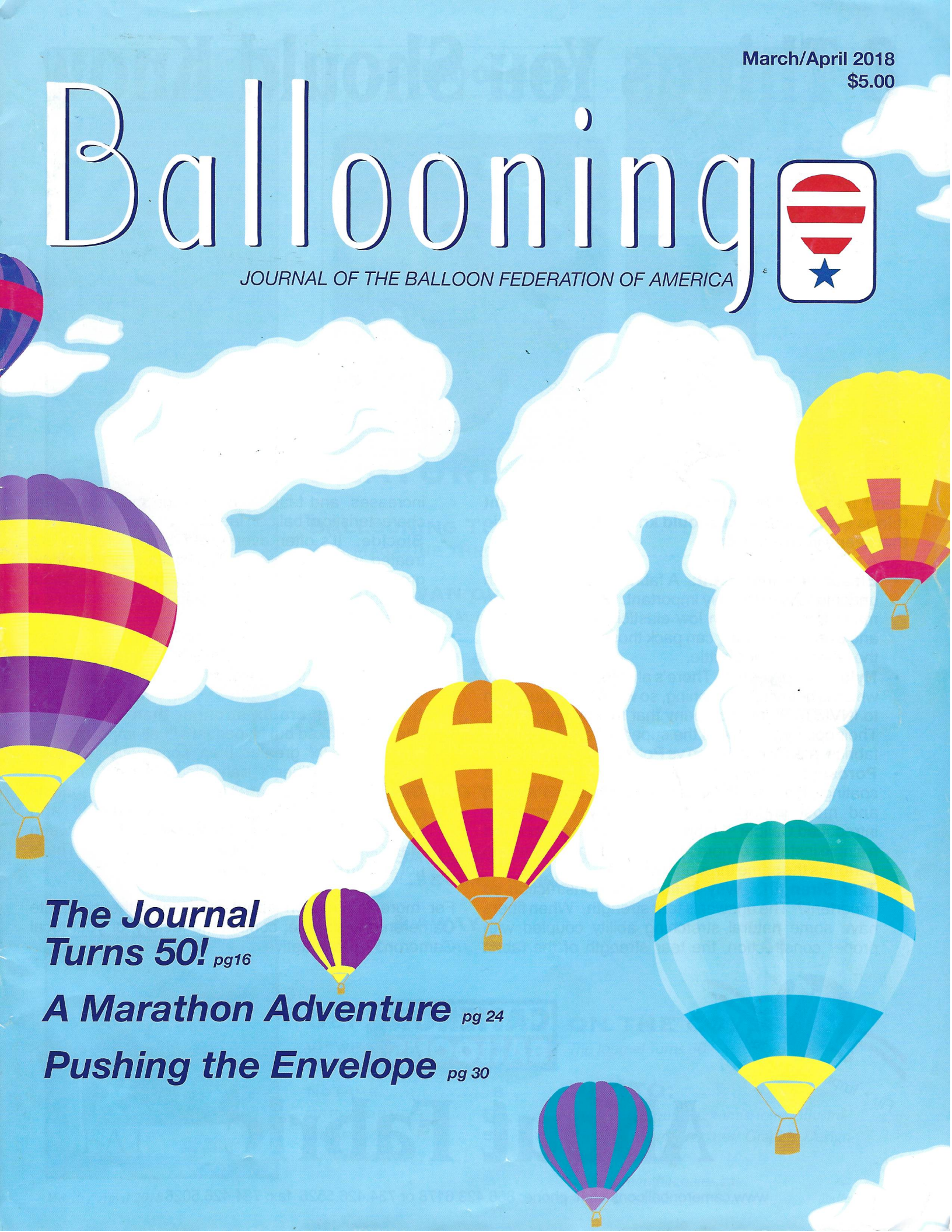


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A MARATHON ADVENTURE

BY BILL SMITH



I've always been drawn to challenges. When I was seven years old, my big sister locked my younger brother and me out of the house for misbehaving and told us we would have to stay outside until Mom came home. While my brother was resigned to the fact that we would have to play in the backyard for a couple of hours, I was determined to get back inside. With all of the doors locked on the ground floor, I shinnied up a downspout on the rear porch and climbed into a second-floor window. My older siblings couldn't believe I was able to make such a dangerous and difficult climb, which gave me a sense

of pride in my accomplishment and daring. Six decades later, I still enjoy the adrenalin rush of achieving a goal that most people dismiss as too dangerous or too difficult. I find it empowering to develop the skills, knowledge, procedures, and equipment to safely push the performance envelope.

After operating a small balloon ride business for a dozen years, I developed

a yearning to test my piloting skills a little more than routine one-hour passenger rides do. I wasn't attracted to competitive ballooning that at times seemed cutthroat but was more interested in improving my personal best performances. Thus, for the past five years I have participated in the BFA Long Jump Challenge and flew the farthest distance on forty gallons of propane for the last four years in a row. I recently came across information on the Balloon Federation of America's (BFA) website about the Sporting Badge Program they administer on behalf of the Federation Aeronautique Internationale (FAI). According to the webpage, "The purpose of this program is to recognize an

international level, excellence in the sport of ballooning in the performance area. The Sporting Badge Program is a common set of tasks, of progressive difficulty, which challenges the pilot on the full scope of balloon flight. The pilot must demonstrate not only flying skills, but also planning, logistics, and documentation skills as well." This paragraph was written for me, and I was hooked.

The categories of achievement are distance, duration, altitude, and goal. Since I already had a nine-hour, 750-mile flight under my belt from last year's long jump, I decided to work on the duration aspect of the program. To qualify for a silver badge I would have to fly three hours, fly six hours for a gold badge, or fly twelve hours for a diamond performance. I set my sights on the twelve-hour challenge.

The equipment I chose for the task was my brother's 1998 Aerostar RX-8 that had predominantly black fabric. My basket was a standard RWSW model with aluminum uprights and a single Zone Five burner. I added three additional tanks for a total capacity of ninety-eight gallons of fuel.

The weather parameters I was looking for were similar to those for a long jump: an arctic high-pressure system with temperatures near zero for maximum air density and clear skies for maximum solar heating. But instead of needing winds aloft approaching 100 knots, I wanted winds below 1,000' to be as light as possible to minimize the chase distance. On December 27, I saw the right weather conditions developing for an attempt on January 2, so I asked my wife Janet to crew for me and my friend D.J. Stickler to serve as my official observer.

On New Year's Day, we planned for a 4:00 p.m. departure to Bloomington, Indiana, which is about ninety miles northwest of my intended landing spot near my home in Simpsonville, Kentucky. That morning, D.J. and I inspected the envelope; then I fuelled up the tanks after lunch, while D.J. went home to pack. After filling all five of the tanks, I noticed that the cylinder valve on the #2 tank would not shut off totally. In the 10° temperature, I spent the next three hours outside draining the leaking tank and troubleshooting the problem. It turns out that there was a quarter-inch piece of electrical tape

stuck under the valve seat. (Strike one.) Once I removed it and reassembled the valve, I refuelled the tank and then pressurized all of them, finishing just an hour before our scheduled departure time. In a mad rush, I finished packing and we departed for Bloomington.

After a two-hour drive through snow-covered southern Indiana, we checked into a Holiday Inn and went to dinner. As we ate, my wife casually asked me how cold it was going to get overnight, and I suddenly realized in my rush to get packed that I hadn't checked the Bloomington forecast. I knew it was going to be near zero in Louisville but was shocked to see on my cell phone that the local temperature was going down to -10° with a wind chill of -18°. (Strike two.) Back at the hotel, we drove around the building looking for an electrical outlet in which to plug a heater for keeping the equipment warm overnight. Holiday Inn didn't have one, so we drove next door to the Days Inn. We found just one behind an air-conditioning unit, but as luck would have it, the receptacle did not work. (Strike three, you're out!) Back in the room, I did a little risk assessment and decided to cancel the flight and go home in the morning.

Two days later, I saw another good weather system developing for January 6. This time, the 3,000' winds were forecasted to be out of the north at 10 knots, with light and variable winds on the surface all day. With those ideal conditions, I decided to launch from home and try to land somewhere in south central Kentucky. With no need for hotels or electrical outlets, I could sleep in my own bed and the equipment would stay in its heated garage until launch time, making for a much easier operation. We planned to meet our crew on Saturday at 4:30 a.m. and launch by 5:15.

The winds were calm and the temperature was -1° on launch morning. Janet, D.J., and my brother Don drove with me in the chase van just fifty yards down the driveway to the hayfield next door. Under brilliant moonlight, we went to work setting up the basket and laying out the envelope over the frozen ground. Everything took a little longer in the cold and with the bulky clothing we were wearing. We finally had the balloon standing just after our target

takeoff time of 5:15, but I needed a few more minutes to disconnect the inflation tank and finish the checklist. I released the tie-off and gave the burner a long blast. "It's 5:28," my official observer shouted when the basket skids cleared the ground. With this slightly late start, I knew that I would have to fly within ten minutes of sunset to qualify.

Flying at 1,000' above the ground, in the dark, with sub-zero temperatures is a different kind of challenge. The balloon quickly cools and an unwanted descent toward possible unseen power lines comes on rapidly. With two and a half hours until sunrise, I found it necessary to concentrate on the altimeter and variometer of the instrument display to maintain level flight, instead of watching the horizon and terrain as I normally do in the daylight. A couple of times while checking my position on the electronic map pad, I was shocked to see that a 500'-per-minute-descent had developed on the variometer. I forced myself to concentrate.

I also expected the cold temperatures to affect my equipment and I wasn't disappointed. From the second I struck the piezo igniter, I had trouble with the pilot light. The brass base of the vapor converter apparently was so cold that the liquid fuel was not vaporizing sufficiently to produce a quiet blue flame. Instead, it was spewing liquid propane that would produce a yellow flame extending six inches above the burner coils. I figured that a tall pilot light flame was better than no flame and that it would settle down as the burners got warm.

An hour into the flight the pilot light flame grew more erratic and I started thinking about a night-time landing. To check for power lines in such an emergency, I carried a high-intensity tactical flashlight. When I pressed the button on the end of the light to test it, I found the switch was frozen solid and the light would not work at all. At that point I knew I was going to have to tolerate the malfunctioning pilot light until daybreak because I couldn't land in the dark on my backup penlight. At sunrise, I cracked open the metering valve and shut off the pilot light. Within minutes, the frost melted off the pilot light stem, and I struck the piezo button and got a



After hours in the cold and dark, the first glimpse of dawn was a welcome sight.

Inset: Sunrise over Kentucky at 08:00 a.m.

normal blue flame. I celebrated by taking a long swig of water from the bottle in my inner coat pocket.

In addition to flying the balloon, solving problems, and keeping warm, I still had to navigate. I wasn't concerned about a specific destination, but the restricted area surrounding Fort Knox's artillery range was just thirty miles southwest. My initial heading was about 200 degrees, so I was fairly confident R3704 would not be a factor. After about an hour in the air, I turned more to the west and became less sure of everything. At 7:15 I called Louisville International Airport Approach Control and asked if the range was hot. "We haven't heard anything from them yet," the controller replied. "You can give them a call and find out." After arresting another unintended descent, I took off my heavy gloves and dialed the range control officer at Fort Knox. He told me he was planning to open the range for live fire shortly, but all I had to do was call him and he would shut down the training. "I don't think that will be necessary," I said to him, knowing the ramification I would have

on the soldiers, "but I will keep you informed if it looks like I will get close." The officer wanted to continue chatting about my balloon adventure, but I finally told him, "I've got to go. My fingers are getting cold."

At 7:20 my 18-gallon tank was empty. The 9.8-gallon-per-hour fuel usage rate was about what I had expected for the hours of darkness. Dawn was starting to illuminate the farms below and I was turning more toward the restricted area now just fifteen miles ahead. "I need to get down and get some left," I told myself.

Descending to 200', I slowed from 10 mph to 7 and turned about twenty degrees to the south. "Looks like Glasgow," I texted my crew with relief. Glasgow, Kentucky, is home to a lot of cattle farms and hayfields and a great place to land. Now I had to quit staring at the instrument display and stay focused on densely forested and hilly terrain below. I didn't want to get distracted and hit a power line during

the next ten hours of low-level flying.

With the sun breaking the horizon at 8:00 a.m., I looked forward to a little solar heating on my black arctic clothing and to better fuel consumption with the black balloon. The second tank started delivering vapor to the burner jets at 10:20 for an improved rate of 6.6 gallons per hour.

The rising sun did bring a little warmth to the air but also brought some thermal action with it. For hours I slowly meandered to the south southwest, occasionally making large graceful circles over the uninhabited forest. The only noise I could hear was a sporadic popping sound from the M-60 machine guns at the Army post to the west. The gunfire got louder as I passed the lunch hour snacking on granola bars and popcorn.

At 2:00 p.m. I was a mile south-

east of the restricted area when I began another unwanted circling maneuver back toward Fort Knox. I called Mike Montgomery, my trusted weather advisor, and expressed my frustration with the lack of direction and the never-ending forest. "I've got to get away from here," I told him. Mike confirmed what I had already concluded: "Climb."

My overall flight plan was to stay low and avoid a lot of maneuvering to conserve fuel. But now with just three hours to go, fuel was no longer a factor; a restricted area violation and a tree-filled landing area were. I gave the blast valve several long squeezes through my

thick gloves and the envelope responded immediately by taking me to 4,000'. Right on cue, my new Digitool instruments showed the speed pick up to 9 mph and a steady track to the south. Abraham Lincoln's birthplace at Hodgenville was about fifteen miles ahead, and I breathed a sigh of relief and drank some more water. Fatigue and the 15° temperature suddenly seemed less of a burden on my sixty-five-year-old body.

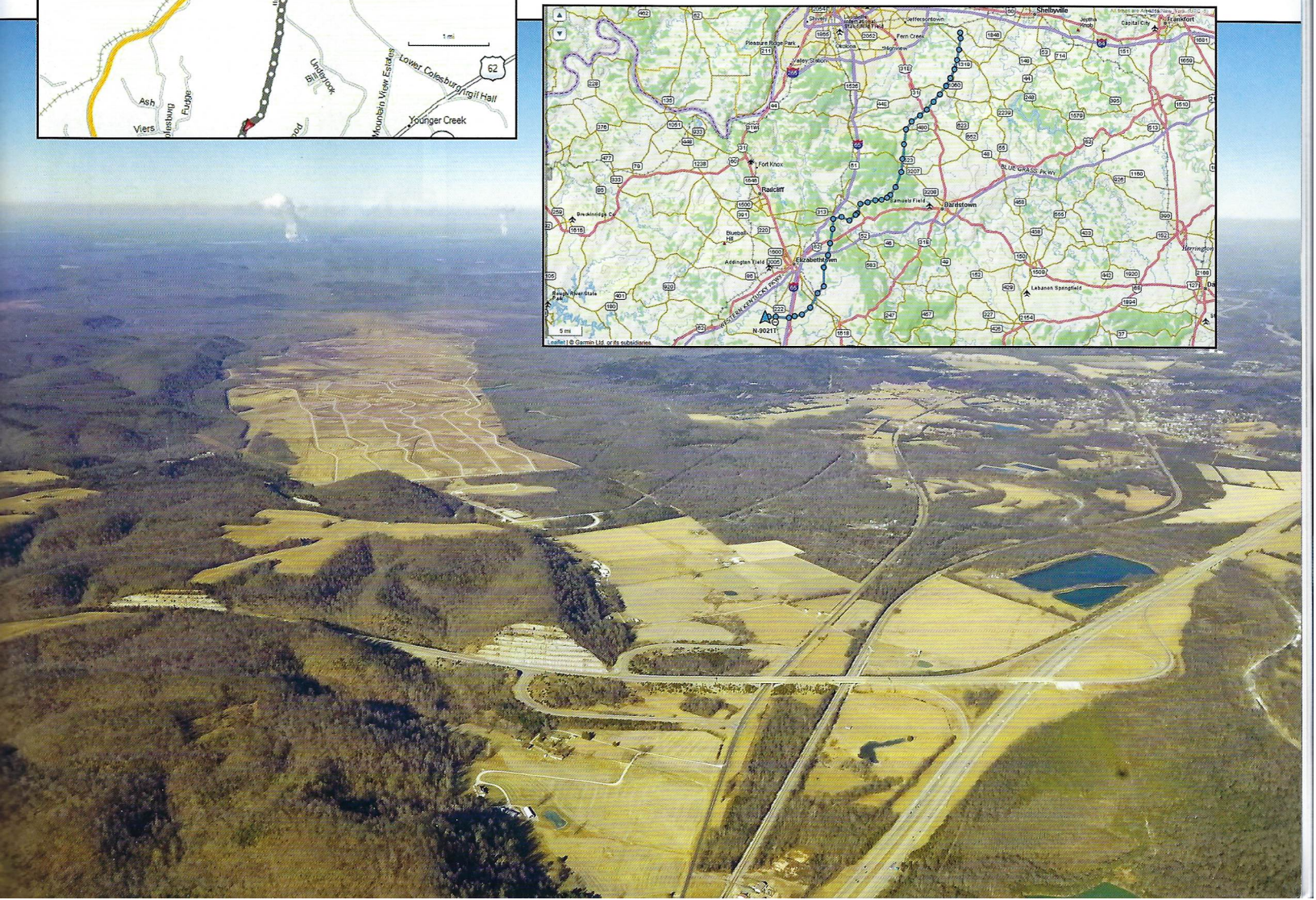
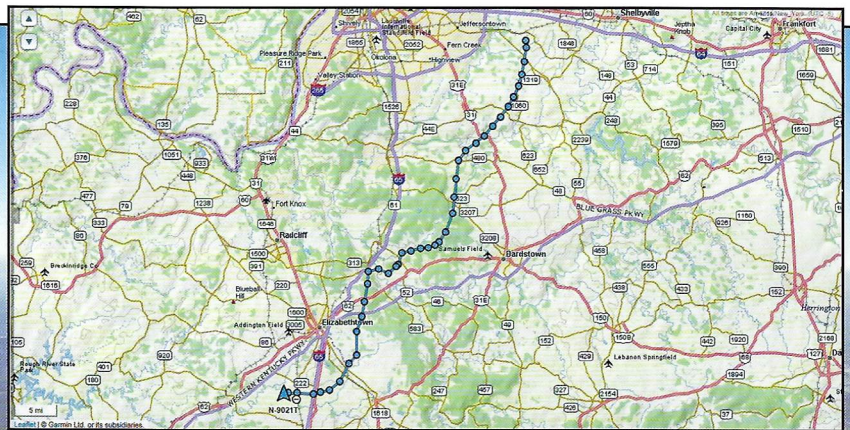
Just before 3:00, the third tank went dry after four and a half hours of use. I calculated an incredible rate of 4.4 gallons per hour, half of my nighttime rate. I switched to the fourth tank and began a shallow descent to the wide-open spaces of LaRue County. After ten hours of flying with almost no place to land, I welcomed seeing balloon-friendly crop fields ahead of me all the way to the horizon.

By the time I crossed I-65 at 5:00 p.m., my chase crew caught up with me and was in radio contact. After the launch, D.J. had taken the chase van home to monitor the phone and watch my progress with the satellite tracking device via the internet. At noon, he had joined up with another crew member, Rodney Zeller, and had started my way from Louisville. Then near Hodgenville, they linked up with local balloon pilot Kenton Slayton for the final leg of the marathon chase. "You have a half hour left," D.J. radioed. From that point on I watched the time on my cell phone as often as the flight instruments.

Time passed slowly waiting for the sun to set. Finally, with five minutes remaining to reach my goal, I descended to treetop level and lined up on a couple of large cornfields ahead. I could see my crew's silver van on a road to my left, so I gave them a description of the farm where I intended to land.



Below: The tank ranges of Fort Knox at left center
 Left Inset: Flight track approaching the restricted area.
 Below Inset: Complete flight track from Garmin website.



"Time is up!" D.J. announced on the radio at 5:28 p.m. Just then I spotted a red pickup truck driving straight at me through the cornfield I was planning to drop into. When the driver got out, I hollered, "Can I land here?" "Absolutely!" he shouted back. With that I eased the 90,000-cubic-foot balloon down for a stand-up landing. "Twelve hours and three minutes," D.J. announced over the UHF. I smiled as I realized that tank #4 was on fumes and I needed to crack open the last 20-gallon tank to walk the balloon from the field. (I had used 7.5 gallons per hour from the fourth tank.) It was just seven minutes to sunset and I was only forty-nine miles from home. I had done it!

Jeff Key, the property owner, was extremely excited about my balloon landing on his farm. He introduced his daughter Shelby and wife Mary and then explained that he had just gotten his high-speed Nikon camera for Christmas. His wife laughed at how much

fun Jeff was having shooting video and pictures with his new toy. Later, he emailed me a dozen time-stamped landing photos for my documentation file.

Flying the balloon for twelve hours was the easy part of this challenge. Completing the forty pages of documentation took considerably more time and effort. Thanks to helpful guidance from Rich Jaworski and Koh Murai of the BFA Sporting Badge Committee, I was able to navigate the process, submit my claim for the FAI diamond duration achievement, and turn my attention to my next ballooning challenge: 9,000 meters.

This flight was a team effort and I am truly grateful to have such a terrific team. I would like to thank my wife Janet for her love and support in this and every project I undertake. Thanks also go to my crew members Rodney Zeller, Don Smith, and Kenton Slayton, as well as my official observer D.J. Stickler, for their time and hard work. Addition-

ally, I want to express my gratitude to Brian Beazly, Matt McClinton, Mike Montgomery, Rich Jaworski, and Koh Murai for their technical assistance before, during, and after the flight. I also would like to acknowledge the hospitality displayed by the landowners, the Key family. Finally, I especially need to recognize my big sister who inspired me that day back in 1959 to seek adventure in high places and to never fear a good challenge. And Linda, thanks for not telling Mom!



Above: The author trying to keep warm!

Top left: Final approach at Glendale Kentucky photo by Jeff Key

Top right: Touchdown at 12 hours and three minutes. photo by Jeff Key

Bottom left: Pilot Bill Smith with the Key family. photo by Rodney Zeller

