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# BALLOONING

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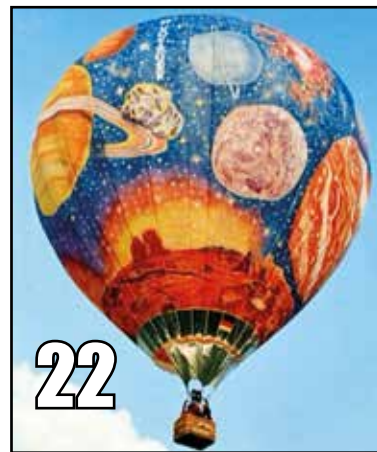
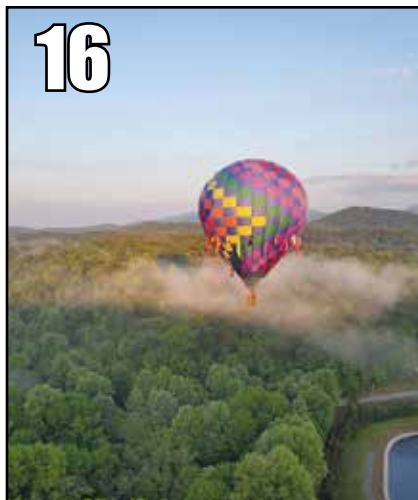
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Bill Smith Wins Helen to the Atlantic

# PHOTOGRAPHER:

Rodney Zeller







## Tomorrow and Tomorrow and Tomorrow

Each of us is granted only so many days of life on this earth. Fortunately we don't know if our number is large or small. Having recently reached my 70th birthday I am aware that I obviously have fewer days before me than behind me. Thus the loss of a friend like Dewey Reinhard, and as I write this, Chris Lynch, only serves to drive that thought home all the more.

I met Dewey in the early 1980s. He was the keynote/after dinner speaker at a function for the North Texas Ballooning Association. I was still a wannabe balloonist but his tales of learning to fly, and his attempt to cross the Atlantic, held me spellbound. It remains one of the most enjoyable speeches I can recall.

Not long after, Dewey took the incredible step to organize and host a series of seminars for event promoters and organizers. I was asked to be a presenter there, speaking to media relations and emergency operations. I formed a friendship with Dewey that never faded. It was a joy to see him whenever our paths crossed, most often at Balloon Fiesta or a BFA function. Many others knew him far better than I, but I cherish that he was among my friends.

I knew Chris Lynch through his wife Maureen, who was a colleague during my years at "Balloon Life." We weren't beer drinking buddies, but we traded, sold, and purchased some ballooning ephemera between us and shared a few stories through the years.

Now both are sadly gone, along with too many other friends who've come my way through our beautiful sport. My point is simply this. None of us knows how many tomorrows we have. Don't wait until it's too late to tell a friend just what their friendship means to you.

Fly safe! Find a way to be there for a friend.



Find the BFA on these Social Media:



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by Pat Cannon  
BFA President

**T**he BFA has had a very busy summer. We've just completed the first of five youth camps for the 2023 season. This first camp was an overwhelming success thanks to our BFA camp committee members and to the many volunteers and instructors that gave freely of their time and effort for the youthful campers.

On the regulation front, the past several months have been dominated by discussion and action regarding the new Class II medical requirement, ADS-B in Class C airspace and the issue of drone right-of-way requests. These items have largely consumed much of our time over the past six to nine months and we are finally seeing progress and potential resolution.

#### CLASS II MEDICALS

The timely issuance of second-class medical certificates continues to be a concern for some, although several of those pilots that responded to our email offering assistance have now received their medical certificates. Others are now entering the cue for final review, and Aeromedical continues to consider these individual cases for expedited movement forward. As expected, some cases are more complex than others and will require additional time for review.

There have been denials, but not many and some of those are being appealed for review. Others may be delayed because of additional testing or documentation required by Aeromed. These delays are not affecting just balloonists. There are literally thousands

of new pilot applicants entering training in reaction to the pilot shortages faced by virtually every airline. While these pilots are young and mostly healthy, they still must qualify for a first class medical. Most are doing this before starting training to see if they qualify. Without the first class medical, they will not reach the airlines. If issued, they then will be required to re-apply and pass their medical evaluation every six months. This influx of pilot applicants has placed a huge workload on an already overburdened system. Coupled with the implementation of the second class medical for commercial balloon pilots the effect is that Aeromedical is looking for additional doctors in Oklahoma City to review the backlog of medical applications. Those balloonists who procrastinated, despite our many cautions to get started early, are now paying the price. The BFA continues to try to help all balloonists where we can but there are limitations to what we can do.

#### ADS-B IN CLASS C

An area that was very important to all balloonists was the issue of whether balloons would be allowed to fly in Class C airspace where it extends to the surface. Of course, Class C airspace, like Class B airspace, is formed like a layer cake and may extend quite some distance from the center of the airport it was formed around. Balloons have always been allowed to fly under class B or C airspace. In January 2020, a new rule was put into place that prohibited all aircraft from operating in Class B or C airspace without an ADS-B transponder. While any aircraft, including balloons, was exempted from the rule based on its lack of an on-board electrical system to power that device, that exemption did not extend to the area within Class C airspace.



Many balloon flying areas around the country are in close proximity to Class C airspace and balloons had continued to fly, with local ATC approval, in Class C airspace. The ADS-B rule was not really enforced until a little over a year ago, when the Albuquerque FAA called into question the legality of balloons flying in Class C without an ADS-B transponder. Through the efforts of Scotty Appelman in ABQ, this issue was raised all the way to the Department of Transportation. The FAA was asked to form a SRM (Safety Risk Management) Team to conduct a safety risk assessment. The team was tasked to identify hazards and assess risks associated with balloon operations in Class C airspace with and without ADS-B out. Those on the SRM Team from our community were Scotty Appelman, Pat Cannon, Sam Parks, Blair Kaufman, Peter Cuneo, Dave Bair, and Jeff Buesing. They were a part of a large group of 20 FAA personnel and five FAA support personnel. All were operating under a non-disclosure agreement. Only recently were the results of the SRM Team's assessment made public and we have already published those findings, along with the FAA contact, to begin the process of obtaining the required LOA (Letter of Agreement) for balloons to operate in Class C airspace without ADS-B.

While it was decided that there is some inherent risk in allowing balloons to operate in Class C without the equipment, there were no incidents of any kind on record to prove that this risk was above the medium level. The involvement of BFA and all other members that provided input to this final outcome was critical to its success. You will need an LOA to continue to fly in Class C, or if you are organizing a festival within the boundaries of Class C, but making the application is easy and can be temporary or may last up to one year. It is now a requirement, but this increased level of regulation is far better than losing that airspace altogether.

#### DRONES/BVLOS

Lastly, the drone issue. This continues to be an ongoing discussion between operators of both small and large UAVs. Over six months ago, balloonists were asked to write letters to the ARC that was formed to study a proposal by the UAV industry to allow UAVs to operate indiscriminately, with the right-of-way over all other aircraft, including balloons, in the airspace below 400 feet. Proponents of the move stated that "no one flies in that airspace" so they should be allowed the right-of-way. They further had no intent to require these UAVs to be equipped with "detect and avoid" equipment, should they be flying at another flying object at those altitudes.

Once their report was made public and was discovered by thousands of users of that 'below 400 foot' airspace, a consortium of stakeholders was formed, led by AOPA and the BFA. Our goal was to educate the ARC on the critically high risk such a move would impose on ballooning and other sport and business aviation activities. Our position was stated in terms of *when* there would be an accident, not *if*!

Public comments outlining the potential risks were made and recorded. These came from AOPA, HAI (Helicopter Association International) and BFA and many of their members. The ARC was made aware of the risk not only to ballooning but to so many other forms of aviation that occupy the lower flight levels below 400 feet. In their latest attempt to modify their request, the UAV industry now recognizes the need for "detect and avoid" equipment on board but their limited concern was only for other UAVs, to avoid a midair collision. Again, balloons were not mentioned. In addition, it was proposed that they be granted shielded areas of their own

designation, when and where they please, that provides them with the right-of-way.

Shielded areas exist now around critical infrastructure areas on the ground and allow a 100X100 foot box area around them for security purposes. The UAV industry is using that to ask for the ability to establish these shielded areas for their operations, but nowhere in their comments do they specify size, or time limitations. This proposal also fails to recognize that without the benefit of detect and avoid equipment, these UAVs will endanger other aircraft in their area of operation. The BFA's most recent comments opposed these shielded areas and urges these UAVs should also have on-board technology to detect and avoid. A very limited timeline was allowed for public comment so thanks to those of you that made comment on this latest proposal by the UAV industry.

The industries that make up sport and business aviation and use the airspace below 400 feet on a compliant basis, are not against UAV integration. These machines are a reality and we have only just seen the beginning of what this will entail in the future. Congress mandated that UAV aircraft be integrated into the national airspace system in 2018, concurrent with the second-class medical requirement being made law. They are here and will stay, but it is up to us to make sure that the definition of shared airspace does not violate the very principles of safety that our system of right-of-way was founded on.

So, in addition to fighting the unusual heat being experienced throughout the country, we have had our hands full with government projects. We are making progress and will keep you advised. Have a great summer and fly safely!

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## BFA Launches New Member Recognition Awards



nomination process, any BFA member may recommend a person for consideration through their regional or at-large director.

These coins were funded by a corporate donor who asked to remain anonymous.

### Maintainer Award

Also new is the “BFA Maintainers Award.” This award has been established to recognize long standing individual accomplishments and contributions in the fields of maintenance, service, and repair of hot air and gas balloons. Here are the qualifications:

The nominee/applicant must meet the following qualifications:

1. Must hold an FAA repairman certificate. A&P/IA certificate holders are not eligible unless employed by an FAA Air Agency certificate holder with a limited airframe rating.
2. Have a minimum of 25 years of civil or military maintenance experience.
3. No certificate revocations on record.
4. Demonstrated recency/currency of experience/training:
  - A. Documented attendance at factory maintenance seminars, and
  - B. Evidence of completion of in-house training conducted as required by the air agency certificate employed under, or online training completed through mechanisms such as Aerolearn, MyFAA, FAASafety Team, etc.
  - C. Participation in William O’Brian AMY Awards program (per FAA AC 65-25).

Complete credential/proof of qualification must be provided at the time of award application for review and verification/vetting. All applications must be submitted by August 15 for consideration. Awards will be presented at the Annual General Meeting by the current BFA President unless otherwise decided by the Board.

### National/Regional Crew Person of the Year

National and Regional Crew Persons Awards recognize outstanding crew persons who are diligent, reliable, organized, responsible, and always put safety first.

#### Criteria:

National and Regional Crew Persons Awards are open to all BFA members, pilots, crew, and others. Nominations can be up to, but no longer, than one page long. Nominations must

The Balloon Federation of America is launching a new member recognition initiative designed to honor those who have made significant contributions or demonstrated a commitment toward the BFA’s mission of promoting safety in the sport of ballooning. Those so honored will receive a newly designed and minted BFA safety coin.

The first of these coins was just presented to Mike Emich of Akron, Ohio. Mike Emich is well deserving of such recognition. A veteran pilot who received his LTA certificate in 1974, he is to be inducted into the Ballooning Hall of Fame this summer. Emich has earned the FAI Gold Sporting Badge with one diamond. He is a founding member of the gas ballooning Aero Club of North America, North Carolina chapter.

The BFA is thrilled that Mike Emich is the first to be honored as part of this new initiative. Throughout his nearly 50 year career as an aeronaut, Emich has been a presenter on issues of safety in hot air, gas, and homebuilt balloons at numerous seminars and BFA conventions throughout the decades. He is the author of a book on gas ballooning. The award was presented recently by former BFA Director and now Awards Committee Co-Chairman Mark MacSkimming at a recent NOBPA event.

Unlike other traditional BFA awards there will be no formal criteria for qualification, no official nomination process. Any BFA member is eligible and each potential honoree will be judged on a case by case basis with an eye to their actions or performance that exemplifies a “safety first” attitude in their approach to the sport of ballooning. The BFA Board plans to entrust these coins to a handful of representatives who will be empowered to present the award at a time and location they deem appropriate. While there is no formal



include the candidate's name, address, years of crewing experience, contributions to the sport of hot air ballooning, and the reason(s) why the candidate should receive the award.

**Procedure:**

• Nominations for the awards must be made by BFA members and are solicited from the general membership via a published notice on this website.

• The period of nomination is from the Annual General Meeting until August 15 of the award year.

• Nominations may be sent to your BFA Regional Director, the BFA At-Large Directors, or the Awards Chairperson via the BFA Office.

• The period of nomination is from the General Meeting until August 15th of the award year.

• Each BFA Regional Director will select a Regional Crew Person Award recipient from their region. Each Regional Crew Award recipient exclusively and automatically advances for consideration for the National Crew Person Award selected by the full BFA Board of Directors.

The National Crew Person Award will be presented at the Annual General Meeting by the current BFA President unless otherwise decided by the Board. Regional Crew Person Awards will be presented by each respective BFA Regional Director.

## Stumpf Balloons Unveils New Website

Paul S. Stumpf is very pleased to announce the release of the sparkly new Stumpf Balloons & Banners website. The new website encompasses all the diverse Stumpf Balloons 45+ years of services including: Balloon Accessory Catalog now with online ordering, Hot Air Balloon Banners, Stumpf Balloons Repair Station, DIY Experimental balloon building, as well as Paul's Biography and links to historical and technical pages. Many thanks to our talented web developer and designer Helene Viens!

Visit: <http://www.StumpfBalloons.com>

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## It's YOUR BFA, Shape It, Or Someone Else Will!



by the BFA President or a designated individual by telephone. Division Chairs notify their candidates of results.

•**September 6, 2023:** Election results are announced by BFA email blast, on social media and bfa.net.

Note these dates are same for Divisional elections. Candidate photos and bios for all candidates will be available for your review on the website, bfa.net. You're encouraged to review these to aid your decision before voting.

As always, if you don't bother to vote, don't bother to complain afterwards.

July/August annually means election time across the BFA. If you dislike the direction of the organization, or if you want a larger say in the federation, voting for the candidate of your choice is the best way to accomplish change. Each summer, three members of the BFA board are elected. In 2023 the three seats up for election are the Western Region, the Northeast Region, and one of the At-Large positions. Voting will begin on July 30th and ends on August 29th with results expected to be announced on September 6th. Newly elected directors join the board at the conclusion of the annual meeting in Albuquerque just prior to the start of Balloon Fiesta.

In addition to the three seats up for election, the board will be appointing someone to fill the term of former Southeast Region Director Tom Warren who has resigned. This means almost one half of the board will change in this single election!

Here are the important dates to keep in mind:

•**July 9, 2023:** To be eligible to vote you must be a member of the BFA by July 9th. Those joining after this date are not able to vote in this election.

•**July 30, 2023:** Paper ballot mailed to those who opt in for this service and electronic online voting begins at 6:00am Central.

•**August 29, 2023:** Electronic voting closes at 10:00pm Central and paper ballots must be postmarked by this date.

•**September 5, 2023:** Ballots counted. President and Division Chairs are notified of results. Candidates are notified of the results



*Congratulations to Mark Sullivan of Albuquerque, NM. Sullivan was honored for achieving the Ed Yost Master Pilot Award signifying 40 years of safe ballooning. The award was presented during the BFA U.S. Nationals in Longview, TX by BFA President Pat Cannon. Sullivan's contributions to the sport of ballooning are many including being a member of the Albuquerque International Balloon Fiesta Board of Directors and serving as President of the Federation Aeronautique Internationale Ballooning Commission.*



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## Like Father, Like Son! Benni Eimers Wins 2022 Montgolfier Diploma for Best Sporting Performance in Gas Ballooning

Story by Ruth Wilson, CIA Alternate Delegate for Australia and Member of the CIA PMR subcommittee  
Images courtesy Eimers family/FAI

With his father Wilhelm Eimers sharing his basket, Benni launched from St Gallen, Switzerland on 2 September 2022. They flew 1572km in 60 hours 45 minutes encountering restricted flight areas, rain, clouds, and temperatures of minus 10 degrees Celsius with flight levels at times over 18,000 feet.

For over fifteen years Benni had managed his father's Gordon Bennett Ground Control Teams whose support covered weather updates, clearance with various air traffic controllers and other necessary advice. Consequently, for this race Benni drew on such experience to select an excellent ground support team.

The pilots flew high through stable weather saving the need to ballast sand to maintain flight equilibrium. After three nights airborne their position found them over the Black Sea with a distance of 60km to fly to cross the coast. Their accumulated sand for those final kilometres was profoundly appreciated.

The race rules state: "This is a race of country against country. Two people of the same nationality must be in the basket. The pilot must hold a gas balloon rating. The balloon that achieves the longest distance from a common launch site is the winner."

In those final race moments in 2022 it was a Swiss team challenging the German Eimers' team for the win. With only a winning distance of 21.98km between the Swiss and German teams after flying over 1570 km the Eimers claimed victory with a landing in Bulgaria.

Markus Haggoney, Race Director, was quoted after all balloons had landed as saying 'the teams flew close to each other. All showed a top level of skill, the best in over 30 years.'

Benjamin Eimers has claimed three podium places in five Gordon Bennett races. He also holds several German national records in hot air and gas ballooning. He holds an instructor and examiner rating for both hot air and gas ballooning. His background includes studies for mechanical engineering and computer science. He currently manages his own garden and landscaping company. He is married and father of two sons.

Heard by the public on the St Gallen launch site - "we are last to launch today but no problem we will catch the others" ... Prophetic words indeed from Benjamin Eimers.

His father Wilhelm Eimers received the 1994 Montgolfier Diploma for his 1993 Best Performance in a Gas Balloon.

Heartiest congratulations to both Benjamin and Wilhelm Eimers for their outstanding gas ballooning achievements as well as their dedication to the sport of ballooning.



Top: Gas Ballooning - a magical platform for flight but also photographic images. Benni Eimers produces such an image in the 2022 Gordon Bennett Gas Balloon Race.

Above: Willi & Benni Eimers acknowledge their safe landing and 2022 Gordon Bennett Race win.



# The Lighter Side of Air

By Billy Nova



© 2023 WJN

“what can go wrong?..., everything we need to know is in this manual...”



## FAI Seeks Hot Air TV Logo

Deadline for Entry: July 28, 2023



## Los Ranchos to Purchase Maxie Anderson Home/Land



Various media outlets in Albuquerque, NM are reporting the Village of Los Ranchos has entered into an agreement to purchase the home of historic aeronaut Maxie Anderson. The deal reportedly includes the 6,000 square foot home owned by Maxie and Patty Anderson and their family, plus an additional 23 acres of land. The selling price was \$7.9 million.

The land is located on Rio Grande Boulevard and is one of the last remaining acreages of open farmland.

Los Ranchos Mayor Don Lopez says both the village and the Anderson family wanted the land to be preserved as public access open space. Last fall, voters approved a bond proposal to help finance the land purchase. Lopez also noted, "we've already told the City of Albuquerque, this is a perfect landing site at the Balloon Fiesta."

The property is next door to the Larry P. Abraham Agri-Nature Center, another 25-acre plot the village purchased from the Anderson family over a decade ago. The deal is expected to close in the next several months but before the end of this year.

Maxie Anderson, along with Ben Abruzzo and Larry Newman piloted "Double Eagle II" on the first balloon crossing of the Atlantic ocean in 1978 and in 1980, with his son Kristian, made the first non-stop trans-North American balloon flight in their gas balloon "Kitty Hawk." Anderson died at age 48 along with Don Ida (49) when their balloon crashed in West Germany while participating in the Coupe de Gordon Bennett gas balloon race in 1983.

The FAI Ballooning Commission (CIA) is expanding their social media footprint by introducing FAI Hot Air TV. Ever heard of Gordon Bennett TV? Now we'll be "On Air" with FAI Hot Air TV!

The FAI Hot Air TV is a project aimed at media coverage of FAI ballooning events worldwide. Pre-event introductions, interviews of pilots and officials, commented flights and overall video coverage of individual events. This is what FAI Hot Air TV is about to bring to its audience!

As with any TV channel, this media stream needs a logo too!

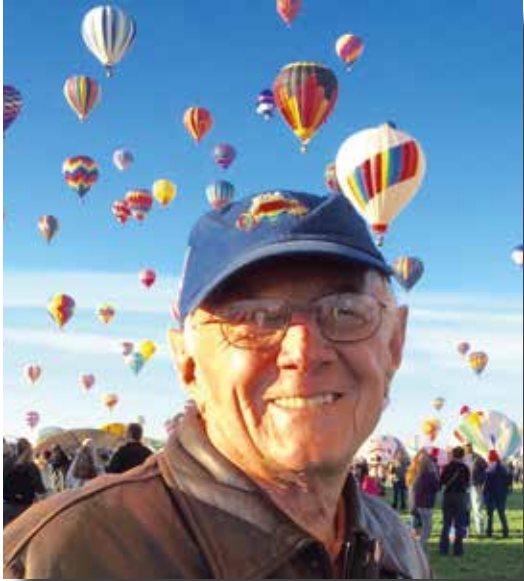
Are you graphically skilled? Does taking part in an international project under the wings of FAI sound appealing to you? Here's how to get involved--

- Send sketch submission, saved in PDF, by Friday July 28, 2023 to: [cia-media@fai.org](mailto:cia-media@fai.org)
- The CIA PMR Subcommittee (SC) will select the winner of the contest.
- The CIA PMR SC will then finalize the logo design with the contest winner.
- The winner should finally provide the logo in vectors, in CMYK, negative, and black-and-white versions, in AI, PNG and PDF formats.
- The rights for the submitted logo sketch must be solely in hands of the submitting person, with future intention of passing the final logo rights on to the FAI.
- Top three contest participants will be introduced publicly via the FAI website and receive a cash gift in the values: \$50, \$30 and \$20 respectively.



# Charles D. “Dewey” Reinhard

## 1930-2023



Charles D. “Dewey” Reinhard, who, along with co-pilot Steve Stephenson, made the 16th manned attempt to fly a balloon across the Atlantic Ocean, died on June 30th. He was 93.

It was October 10, 1977 when Reinhard, along with co-pilot Steve Stephenson, launched their balloon, the “Eagle” in a bid to be first to cross the Atlantic Ocean by balloon. Reinhard had only been flying hot air balloons for three years and had made exactly TWO training flights in a gas balloon with his balloon builder and instructor, Ed Yost. Once aloft “Eagle” covered 200 miles, the flight lasted 47 hours, and ended with a dramatic ditching in a severe storm 20 miles southeast of Halifax. The two men were rescued by the Canadian Coast Guard. Undaunted, Reinhard vowed almost immediately to try again, with a larger balloon and three pilots. Before he could launch that second attempt, Ben Abruzzo, Maxie Anderson, (who had failed on their first attempt at the crossing), and Larry Newman flew into the history books aboard their “Double Eagle II” just months later. That Reinhard could endure such an endeavor that could easily have cost him his life, and vow to try again tells you all you need to know about the man.

Reinhard began ballooning in 1974 and two years later founded the Colorado Springs Balloon Classic (now the Labor Day Liftoff) in his home state of Colorado. He has been called Colorado Springs’ “Father of Ballooning.” That same year he was a founding member of the Ballooning Society of Pikes Peak.

Reinhard flew both hot air and gas balloons, logging more than 1,500 hours aloft in his ballooning career. It was a career marked by numerous honors, including:

- 1983, inducted into the Colorado Aviation Hall of Fame
- 1984 BFA Distinguished Aeronaut Award
- 1986 BFA President’s Award
- 1989 Montgolfier Diploma for Service to Ballooning
- 1996 BFA Shields-Trauger Award
- 2011 inducted into the U.S. Ballooning Hall of Fame
- 2022 Spirit of the Springs Celebration Award

Reinhard gave a lifetime of service to both the BFA and the FAI holding various committee and appointed posts with both organizations. In the 1980’s he organized and conducted the first seminars for event managers and organizers. He was the 1980 U.S. National Gas Balloon Champion, flew in seven Coupe Aeronautique Gordon Bennett Races and five World Gas Balloon Championships.

In October, he is scheduled to receive perhaps the ultimate ballooning honor as Dewey Reinhard will be inducted into the FAI’s International Ballooning Hall of Fame in a ceremony at the Anderson Abruzzo Albuquerque International Balloon Museum just prior to the start of the Balloon Fiesta.

In the simplest of terms, Reinhard was a pioneer of our sport, or as Scott Appelman, who now runs the annual Labor Day Liftoff that will forever be Reinhard’s legacy, said, “He was a great man.”



*Launch of the “Eagle” in 1977. Both photos this page courtesy of Dewey Reinhard*





# Helen to the Atlantic

(or the Gulf of Mexico?)  
by Bill Smith

**“...this contest stands as  
the only distance race for  
hot air balloons in the  
country and possibly the  
world.”**

The people of Helen, Georgia, believe that their little Alpine-like village nestled in the southern range of the Appalachian Mountains is the center of their world, and in the days of Columbus, the ocean was the edge of the earth. Thus, fifty years ago, Pete Hodkinson came up with the concept of the Helen to the Atlantic Balloon Race. The contest is held in the first week of June and begins in Helen on Thursday at sunrise. The finish line is I-95 anywhere between Maine and Florida, with the shortest distance being 205 miles southeast in South Carolina. If no one crosses the finish line by sunset Friday, the winner is whoever lands the closest to the interstate highway. Today, I believe this contest stands as the only distance race for hot air balloons in the country and possibly the world. All other competitive races are target-based.

The rules are fairly simple: pilots can only fly between sunrise and sunset during the two-day race window and balloons can initially takeoff with only 40 gallons of fuel. The rules do allow for multiple landings and uploading unlimited fuel after the first hour of flight, but supplemental oxygen is not permitted. For a pilot to have an official score, they must fly at least beyond the White County border, which is 5-10 miles from Helen in all directions.

To complicate the race, dense forest and rugged mountain terrain surround the immediate area, including the Natchala National Forest to the north, west and east. The only suitable

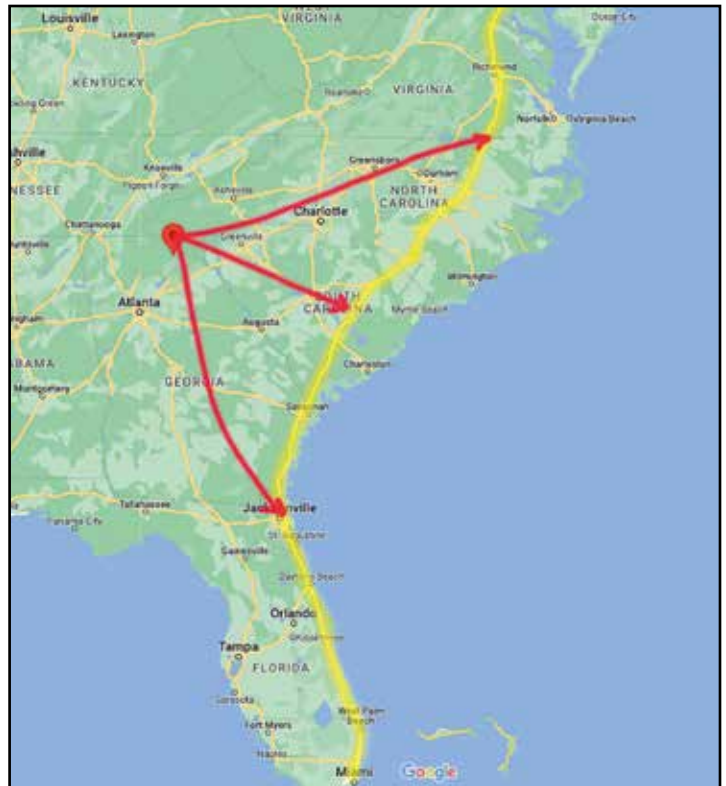


direction for the first leg of the flight is to the southeast, south or southwest. And, landing spots in much of the “good” area are marginal at best.

My strategy for the race was to use my black Lindstrand 105 envelope that I use for long jumps and mate it with an Aerostar basket with two horizontal 20-gallon fuel tanks and dual burners. After a couple of hours of flight, I planned to land and upload four fresh tanks, double stacked. With my experimental certification, I could do that legally and should have been able to fly the remainder of the day on the 80 additional gallons of propane. After resting overnight on the road, I planned to takeoff again at sunrise the second day with the four tanks refueled and continue to the finish line on the Eastern Seaboard.

A low-pressure weather system off the east coast of the United States threw a wrench into my flight plan a few days before the race. Instead of the predominant wind pattern from the southwest, the winds aloft for the entire week were forecasted to be very light from the northeast, carrying balloons towards the Gulf coast, not the Atlantic. Now the race strategy was not to fly the farthest distance towards the Atlantic, but to fly the least distance away from the Atlantic and still clear the White County boundary.

Instead of a bulky 105,000 cubic-foot balloon that would be lightly loaded at a midday landing, I opted to switch to a more agile 69,000 cubic-foot Aerostar envelope with a standard airworthiness certificate. With that configuration I wouldn't be allowed to carry more than two fuels tanks, but it would enable me to get into the tight landing spots I might encounter in the anticipated light and variable wind conditions in those mountains. Besides, the longest distance I would have to fly to the county line was about 17 miles



*For the Helen to the Atlantic race, the finish line is I-95 anywhere between Maine and Florida, with the shortest distance being 205 miles southeast in South Carolina. If no one crosses the finish line by sunset Friday, the winner is whoever lands the closest to the interstate highway. (above)*

*For a pilot to have an official score, they must fly at least beyond the White County border, which is 5-10 miles from Helen in all directions. (below)*

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## **“Now the race strategy was not to fly the farthest distance towards the Atlantic, but to fly the least distance away from the Atlantic...”**

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southwest, so the extra fuel capacity would not be needed.

On Thursday morning, the first day of the flight window, all six of the competition pilots, along with about 20 other non-competition pilots, attended the mandatory pilot meeting. The weather briefer advised that the winds down low in the valley of the Chattahoochee River were light and that the winds just above the 3,000' mountain ridge were tracking to the west-southwest. Tarp Head, the long-time balloonmeister, mentioned that there might be some valley drainage to the south, but was careful not to influence the weather decisions of the competition pilots. Being a rookie to this race and not knowing the flying area, I looked to two of the past winners of the event when making my decision fly: Jonathon Wright, who won in 2021, and Mark Meyer, the 2022 winner.

When we got to the launch field, the pibal was showing almost no winds below 400' and then started tracking slowly to the southwest. As I watched the helium balloon continue to





*Shortly after launch, the author and fellow competitor Mark Meyer were flying side by side and casting "dueling shadows" over the Chattahoochee River. Author Bill Smith caught this photo of Meyer from his own balloon as the two were not far from the filming location of the movie "Deliverance."*

climb, it turned more to the west. Without hesitation Jonathon boldly decided to fly; my old friend Mark was more hesitant. After watching Jonathon launch in his racer and immediately fly towards the southwest, Mark and I both decided to sit out Thursday and hope for more drainage and a better direction on Friday. David Bristol also ventured to fly out, but boxed back to the launch field after about 15 minutes and landed nearly where he took off. Later that morning, we learned that Wright had made it out of the county and had safely landed near Dahlonega, Georgia, about 17 miles southwest of Helen. He had the lead, and if nobody dared to fly on Friday, he would be the winner.

Friday morning, my team arrived at the empty launch field 30 minutes before sunrise, just behind Mark. Together, we watched another pilot and found a little stronger valley drainage and a slightly better direction aloft than the day before, so we both

decided to go. At 6:28 a.m. we lifted off simultaneously and slowly tracked south, while two more balloons inflated behind us. About an hour into the flight and traveling just 1.5 miles from the launch field, Mark made an impressive landing at a mountainside winery for fuel. He uploaded more tanks and took off again with more than 80 gallons onboard. I flew for another half hour, crossed a mountain ridge and landed for fuel in small clearing behind a vacation home in the valley, just 3 miles south of Helen. My crew quickly located me and replaced one of my 20-gallon tanks. I launched with 40 gallons - enough to last at least 4 more hours with the intense solar warming on my envelope from the mid-morning sun. Airborne once again, I watched Mark cross over the valley behind me, before losing sight of him behind the tall mountain to the west.

Staying low in the valley, the drainage continued to produce a desirable direction to the south and slightly towards I-95. But, the

*The author departs after an intermediate landing to take on additional fuel. Landing sites were few and tight in the heavily forested valley.*





*The Hall County Sheriff's Department (Deputy Francis) and event organizer Cole Cleiman (in orange) assisted the team with locating the landowner and retrieval of the balloon from behind a locked fence, then posed for selfies before saying their goodbyes.*



county line was still at least 12 miles away, and traveling at 2 mph over all of that forest was very concerning. I didn't want to risk making another refueling stop and also didn't want to fight vicious Georgia thermals trying to land after noon, so I needed more speed. Around 9:30, I climbed 500' to sample the winds. Just above the ridgeline, the winds were tracking to the southwest at 5 mph. A hundred feet higher, they pushed me straight to the west at 10 mph. I settled on the southwest wind line and was very satisfied to make 5 mph towards the county line. While peeking over the top of the mountain, I spotted Daryl Tantum and Mark Meyer's balloons off well west of me and knew I was sitting in the catbird's seat in good position.

As the miles slowly ticked off my GPS, I began to notice buzzards soaring in lazy circles below. I remembered being told that buzzards are a sure sign of thermals and the scavenger birds were likely waiting to pick the bones of any balloonist who is stupid enough to fly in them. So at 10:45, I finally crossed into Hall County, donned my helmet, tightened my restraint harness and descended for an anticipated exciting landing.

My first approach towards a field next to several rows of large chicken coops didn't disappoint. As expected, the thermal updrafts buffeted my balloon and pushed me abruptly towards power lines. After that aborted attempt, I spotted a second clearing a quarter mile ahead, but that turned out to have a stable with a number of saddlebred horses nervously prancing in their paddock from the noise of my burner. Climbing for the horses revealed a long narrow hayfield to the southwest surrounded by forest. I radioed my nearby crew that I was making my third approach and brought my basket in for a standup landing in the mowed grass at 3 mph. With trees just 50' away and fearful of being slapped around from another rogue wind, I ripped out the parachute top and deflated. It was 11:00 a.m., and I had traveled just 16 miles in 4 1/2 hours over endless forest.

Three experienced balloonists from my home state of Kentucky were crewing for me and arrived on the scene within minutes. Wayne Gerding advised me over the radio that there was a locked gate to the property, and that they were going to go to a nearby house to try find the owner. My other crewmembers, Rodney Zeller

and Sean Cundiff, walked the 300-yard distance back to the balloon and told me the rest of the story. "The gate can easily be lifted off its hinges and opened," explained Rodney, "but there is a trail camera with an antenna mounted to the gate post." He then went on to say that Cole Cleiman, the race official, was following along behind them and didn't want my crew to flagrantly bypass the gate and the "No Trespassing" sign in full view of whoever was watching the property via the internet. Instead, they called the Hall County sheriff for assistance.

For the next hour or so, we sat in the shade by the basket while the Georgia heat intensified. I reminded 19-year-old Sean that the 1972 movie thriller "Deliverance" was filmed in the next county over, and joked about hearing a guy playing "Dueling Banjos" from the porch of a nearby house as I made my approach to land there. About the time the three of us got tired of waiting and decided to start carrying out the equipment piece-by-piece, Wayne radioed that they located the landowner and he would be there within 15 minutes. So, I walked out to the gate to meet the sheriff and greet the owner myself in case there were problems.

Deputy Francis was a officer with a full beard, friendly smile, wearing the obligatory sunglasses and shiny star shaped badge on his brown uniform. But, he didn't quite fit the mental image I feared while walking towards the gate: a hard-nosed southern sheriff like that out of the movie "Cool Hand Luke." The soft-spoken deputy was very helpful locating the owner by running the license tag of a farm truck parked in the hayfield. He confessed to me, "Just when I think I've seen it all out here on patrol, something like this happens." I figured he had never seen a balloon before, because we trespass like that all the time in the fenced-in horse farms back home in Kentucky.

Carter Reeves, the landowner, also was a pleasant surprise. I was concerned he may have been upset with the uninvited intrusion on his clearly-posted property, but when I introduced myself as the pilot, he immediately began apologizing for the delay in getting the gate opened for us. A polite southern gentleman, Mr. Reeves welcomed us back onto his land anytime. After a brief chat, we all posed for a few selfies. As we were about to leave, Deputy Francis decided he also needed a picture for the boys back at the sheriff's

*Right: For the winners, an Alpine hat, a beer stein (in keeping with Helen's German heritage) and for the champion, a name on the trophy.*



*The winning crew: Rodney Zeller, Wayne Gerding, Sean Cundiff and author/pilot Bill Smith.*

office and broke out his smart phone for one last snap.

At the awards dinner Saturday night, a big multi-tiered maple trophy topped with a copper balloon stood in the front of the room. The name tags of winners from the previous 49 years of the race were neatly tacked to all sides of the wooden base, with one space conspicuously vacant for the 50th name. After Catherine Cleiman, the event organizer, spent a few minutes highlighting the rich history of the race and graciously honoring past winners, her son Cole announced the race results: Jonathon Wright was 3rd at a distance of 211 miles from I-95, Mark Meyer was 2nd at 207 miles, and I was 1st at 205 miles. Ironically, even after flying 16 miles southeast from the launch field, I had landed at the exact same distance from the target that the launch field in Helen was: 205 miles. I was the first pilot to win the race and not make any progress towards the finish line!

The Helen to the Atlantic Race is a classic balloon event. There is no entry fee and no show-up money. The only prize the top three finishers win is a traditional Alpine fedora hat and a beer stein. The whole focus is on seeing old friends, sharing the sport of ballooning with the community and having a good time. Tarp Head sets the

schedule on the field to end before sunset so that all the crews have plenty of time to hang out on the riverside patio of the hotel and have a family reunion-type evening together. Not surprisingly, getting into the invitation-only event is about as difficult as the treacherous drive on the winding back roads of northern Georgia that it takes to get there. But if you are lucky enough to get an invitation and you survive the perilous journey, Helen to the Atlantic is a ballooning experience you'll always treasure, even if you fly the wrong way.





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# AERIAL ARTISTRY

*Celebrating the Life Work of Charlie Markert*

*Story by Leslie Deane  
Images courtesy Sky High Art*



Before the advent of digital art and sublimation printing, billboards were hand painted by artists with big picture perspective. One such artist was a young Charlie Markert, fresh out of the 187th Army Airborne and looking for a way to support a growing family. Some colleagues recruited him to Pacific Outdoor Advertising in California, where he apprenticed for a couple of years and learned the trade. His career soon took him to Naegele in Minneapolis, where he was introduced to another surface and purpose for his big picture talent: balloons.

Market, who studied at Otis School of Art and Design and the Chouinard School of Art in California, is credited with hundreds of works, most of which were sacrificed to the next scheduled billboard. While Markert exhibited his literally enormous skill on buildings, highways, and other billboard locations, those exhibits were sadly temporary and anonymous. When he was commissioned to paint a banner promoting Golden Grahams cereal in 1979, Markert discovered a unique niche that afforded posterity and permanence for his talents. He also discovered a decidedly uncrowded field.

"It was an ah-ha moment," Market said. He realized these gentle giant productions enjoyed a gratifying permanence not promised to billboards. "Permanence was the joy," he continued. "That's why I was blessed to discover balloons."

However, he learned that the paint on the Golden Grahams banner proved impermanent. It deteriorated from use and exposure. Markert's solution facilitated a steady stream of future commissions.

"I developed silk screen dyes and used low pressure spray guns to just float the color in layers on the fabric," he said. "Then I covered the art with an acrylic emulsion to preserve the images." He would go on to paint more than 50 balloons during the course of his career.

Charlie Markert was never an official aeronaut; his appreciation for the beauty of silent flight may have started when he became familiar with the same fabric as a young paratrooper in the 187th Airborne. But according to his son, Tim Market, Charlie actually did fly solo, just once.

"I was driving home from work one evening and saw a balloon aloft that looked like my own," Tim said. "Then I saw my neighbor who appeared to be chasing it.

He confirmed it was my dad, who had no instruction or experience. He just took the balloon up for a joy ride," Tim said.

"It was a beautifully built solo balloon which didn't require a license," Charlie explained. "Nobody was around to stop me, and the flight was magical.

"I have had many parachute canopies over my head, so I feel a kinship to floating over the countryside in a balloon," he added.

Fortunately, Charlie's solo flight ended without incident. A dumbfounded Tim might have been angrier if his father had taken a different balloon for this jaunt, the one called "Amadeus."

Tim regards Amadeus as Charlie's greatest

work of art; it was also his final balloon. The Thunder & Colt Series II envelope is 105,000 cubic feet of baroque-style scenes, many of which feature faces of family and friends as models. It took Charlie more than 1,000 hours over a year's time to complete the project, commissioned for a gentleman in Bad Karlshafen, Germany.

"The original production estimate was three months," Markert said. "The owner called at the end of three months and was told it would take much longer. He was furious and flew out to see for himself. But after taking one look, he changed his tune and told me to take my time."

Charlie's innovative application



*Above: Markert at work hand painting billboards at age 23. After discovering balloons, (below and inset) his easel and canvases proved to be even larger!*





*Markert's dream of an exhibition of his work was brought to life for the first time at the Oldsmobile Balloon Classic Illinois in the summer of 1994. Markert expressed his desire for such an exhibition in a Balloon Life interview with Glen Moyer, who in turn shared the dream with Classic organizer Ron Crick.*

*Photos courtesy Gary Moore*



techniques assured that many of his originals still look stunning years later. Five such envelopes will reunite at Steamboat Springs, Colorado August 24-27, 2023: Amadeus, Big Top, Carousel II, Western Spirit and King Tut. As impressive as an exhibit of five 70-foot-tall paintings will be, Markert has always dreamed of an even bigger exhibition of his work.

It's not an entirely new idea. Pilot and *Ballooning* editor, Glen Moyer organized what he believes was the first exhibition of Charlie's art back in the early 90's at the "Oldsmobile Balloon Classic" in Danville, IL.

"I brought the idea to the organizer, Ron Crick and we had, I believe, every one of

Markert's balloons, or very nearly, including the thermal airship, in a special display at the event," Moyer said.

But that was decades ago. And while an exhibition of Charlie's stunning painted envelopes isn't a new idea, it's a timely one to revisit.

"Newer pilots have probably never seen his envelopes," Tim Markert said. He and his wife schedule as many events as possible to display the breathtaking balloons, renew appreciation for the lost art of painting them, and, for Charlie Markert's many contributions.

"This current generation of pilots doesn't know about Charlie," said Jodi Markert, daughter-in-law and operations director at Sky High Art, Charlie Markert's Painted

Balloons. "We're actively telling his story and emphasizing this unique talent," she added. "Hand-painted art on an envelope will likely never happen again."

Andy Baird of Cameron Balloons USA agrees it's unlikely. He hasn't seen demand for hand-painted balloon envelopes in years, and for good reasons.

"What Charlie did was very different," Baird said. "Everything he did was a one-off, with hand-blended colors characteristic of hand-painted work.

"Art for today's balloon envelopes is developed digitally and applied with full inkjet printing in the fabric. We maintain digital files for future repairs, or for creating exact duplicates. With today's balloons, a repair can be as simple as specifying which



panels were damaged and we can reproduce and ship the exact replica because the art is on file," he explained. Not so with one of Charlie's envelopes.

Contemporary balloon envelopes can be produced more quickly, too, including those with custom artwork. Production of a painted envelope takes much longer because the images emerge slowly from inspiration and perspiration, unlike digital production. Is mechanically produced art really art? Surprisingly, Markert has nothing but praise for today's art technology.

"A mathematician who transitions from paper and pen to a computer is still a mathematician," he said. Charlie Markert has made the transition; he's still a painter, but these days on an iPad.

He says the iPad is more forgiving than balloon fabric. On the iPad, he can easily fix a mistake, but on a balloon, mistakes would show when the envelope inflated. So, a workday with a serious error was a very bad day indeed within the walls of the big yellow barn studio where Charlie used to work. Back then, he stood endless hours at an easel so tall it required him to use a hydraulic platform, painting on a canvass so large that he could never get the full picture until it was finished.

That meant the inaugural inflation of his newest work was always tense. Charlie calls it "Opening Night Jitters" because that was the moment where irreparable mistakes might appear. He remembers being particularly nervous about the initial inflation of the Voyager envelope, worried that the rings of Saturn weren't perfect. But they were.

Pilot Mark Whiting has flown Charlie's painted envelopes for decades: Carousel I, Carousel II, Western Spirit and Big Top, from the first date each balloon was delivered to the late Chauncey Dunn, his friend and mentor, who commissioned each of these balloons. He takes extra precautions to protect his Markert envelopes during inflation and packing, requiring his crew to wear gloves to prevent contact with skin oils that eventually discolor the painted images. Crewmembers remove jewelry and watches, cover exposed zippers and never drag the envelope toward the bag; it's always carried.

"If any of these artwork balloons are damaged, you live with the damage or try to find someone to provide the delicate work. And nobody can do the work like Charlie Markert," Whiting said.

"There were no repairs," Markert said. "Even Amadeus sustained some damage,



## Charlie's Ode to his Balloon Art

I am an artist who takes his canvas, folds it up and stuffs it into a four foot bag to be tossed, thrown around and left in the dark for days!

Then, in the light of the morning sun, pulled out of its darkened hiding place, straightened, pulled and stretched.

A blast of cold air from an airplane propeller and our creation begins to breathe.

It heaves and wobbles, our aeronauts strain to hold its ropes, trying to tame this seven story, 105,000 cubic foot work of art.

Then as if the sun has suddenly burst into caverns of creation, 20 million BTUs heat the creation and it begins to come to life.

Aeronauts struggle to keep its form destroying itself in the flame that gives it life as heat slowly lifts it into an upright position.

There it stands for all to see, seven stories high; people gape at the enormous size, yet the beauty of shape awes all who view the creation.

Aeronauts climb aboard the wicker basket waiting for the moment its lifts majestically to meet the morning sun.

The creation of art travels over city and countryside to the joy of all the earth-bound who look skyward. Thousands view it in a matter of minutes.

After an hour or so has passed and the aeronauts and passengers have viewed the earth as so few have, it begins its descent, cooling, getting cooler as it descends, returning gently to earth once more.

With one pull of the rip line our creation loses its majestic shape and suddenly lies in a heap, a mere pile of fabric crumpled and twisted in a field.

Aeronauts lovingly stuff our creation back into its dark hiding place to be thrown into the trailer once more awaiting the morning sun to bring it back to life again.

This is my joy in creating a work of art on a marvel of marvelous creations, the majestic hot air balloon. It needs air and fire to breathe, to come alive.

It doesn't have to be locked away in a museum.

*Charlie Markert*





# AMADEUS



and I would not repair it.” Charlie is an artist; when his work is complete, so is the inspiration. Artwork envelope owners like Whiting learn keen respect for the artwork.

“Flying an irreplaceable work of art has made me a very conservative pilot,” Whiting said. “I don’t take any chances with questionable weather, and the one time I did, I regretted it.”

Whiting was requested to do an evening promotional ‘stand-up’ with Big Top on Main Street in downtown Durango, CO during their Animas Valley Balloon Rally when conditions weren’t perfect. He was forced to deflate and pack quickly in the middle of a crowd-filled, narrow street.

“We drew an enormous crowd of 1,000-1,500 fans. It became gusty, so we packed up Big Top in too much of a hurry with people and confusion everywhere,” he said. The envelope sustained a slight tear on the lion’s face, high up on the artwork.

“My mistake... allowing the promotion to take place with Big Top. You can’t see the repair from the outside but if looking for it, you can plainly see the repair from the inside of the balloon. It breaks my heart. Even though none of the children or parents can see it, I know it’s there.”

Pilots like Whiting and Tim Markert who fly Charlie’s “canvases” are motivated to keep his work safe but also seen by spectators. The reunion at Steamboat is a teaser of what could be a much larger exhibition. The dozen envelopes still flying the friendly skies are more than enough to populate an exceptional show, and Tim, Jodi and Charlie are looking for the perfect venue. Tim thinks Central Park in New York City might be just the spot, but other equally grand locations, such as Albuquerque’s Balloon Fiesta, would provide all the essential elements to re-introduce Charlie’s art to a new generation of balloonists.

“At age 86, I hope the opportunity comes soon,” Charlie laughed. Until that day, fans and followers can scroll through his inspiring gallery on Facebook at Sky High Art, Charly Markert’s Painted Balloons.



*Photo courtesy Mark Whiting*

***“Flying an irreplaceable work of art has made me a very conservative pilot.”***

***Mark Whiting***



*Photo courtesy Mark Whiting*

# Crossing



# the LINE!

## *Preventing Line Strikes (In the Wires Environment)*

Story and Photos by  
Gordon Schwontkowski

Additional images  
from BFA files

**H**ands down, ballooning's greatest buzzkill is a line strike. Nothing is more sobering, fatal, or life-changing.

Crossing any line demands your best in decision-making and risk management. The good news is most balloonists may have a close encounter but never strike lines in their entire flying career. And the best news – line strikes are largely preventable.

For our purposes, the “wires environment” is all airspace at or below 100'AGL where 5,500,000+ miles of local distribution lines live. Why not include the 200,000+ miles of taller transmission lines? It's simple math. Not only are these line strikes rare, routine clean sailing at 200' lets your guard down when dropping into line-rich contours or approaches. Odds say your worst day will be below 50'.

### MISCONCEPTIONS

Before we can have a serious discussion of power line safety we first need to dispel some common misconceptions.

- Propane is deadlier. Not so – data shows the #1 killer in ballooning is a power line strike.

- Current kills. It does, but gravity (falls or jumping) and fire pose greater risks – less than 10% of line strike victims are electrocuted.

- Bigger is badder. Striking bigger lines is worse, but never forget even the smallest single line can kill.

- Fabric isn't conductive... no, but the dirt and condensation on it ARE. And with enough voltage, ANYTHING is conductive.

- Underground power... just stop. There's no incentive to bury 6,000,000 miles of wires. The US power grid awaits us in our airspace – face the risk head on.

- Technology will save me. Our industry has tried and tried power line



detectors. Is 40 years of false positives and negatives the reliability you'd bet a human life on? Only you can decide.

•It won't happen to me. It probably won't...but believing it CAN'T suggests complacency. Nobody wants to believe they'll hit a line, but we're all one mistake or wind shift away from a strike – every flight.

•I'm crew – I'm safe. Just seeing a line strike is traumatic. Failing to speak up before one occurs courts survivor's guilt. And running towards a stricken balloon can injure or kill in many ways. STAY CLEAR!

### FAST FACTS

Anyone can hit lines but it's more often high-hour pilots than new ones. Experience and flying familiar areas can bring complacency. Line strikes usually happen at launch, when contouring, on final approach, at landing, or afterwards. Nearly all happen below 100' with most on smaller lines below 30'. Causes include equipment failure and change in wind speed/direction. But human factors affect focused or distracted pilots

alike. Environmental lighting can interfere with perception and situational awareness, slowing or complicating decision-making in the process.

Never underestimate the power of electricity. It's well over 8000°F, travels at the speed of light, and can fuse pavement into glass. Inside a basket it'll instantly sever fuel lines and spray a shower of molten metal as it arcs, plasma cuts, punctures, and welds anything metallic in its path. Non-metallics fare no better. YOU are the perfect conductor of electricity. Current travels through your nervous system, contracts muscles with enough force to break bone, and will stop your heart and breathing. A line strike is a bad day in every way.

### SCAN, SEE and AVOID

The human eye is by far the most reliable power line detector known. "Scan, see and avoid" is the best tool for avoiding strikes – and one flying task that must never stop. It's critical yet simple: continuous sweeps to scan the flight path ahead to spot

lines 1" wide or smaller from a moving platform under changing, uneven, or poor lighting 30 seconds or more ahead in your flight. Not tough, sometimes challenging, but always nonstop. And even a single mistake can be deadly.

Scan patterns vary among pilots, but some basics apply universally. Scan forward along your flight path, then scan each side. Scan 180° in calm variable winds. With more speed, narrow that towards 120° and scan farther forward. Scan with short, regularly-spaced successive eye movements to maintain situational awareness. Guard against target fixation which causes you to miss potentially dangerous situations.

Light is a frienemy in your search for lines, both needed for spotting them and camouflaging them at the same time. And unlimited visibility doesn't mean optimum detection: glare, shadow, backlighting, and parallel lighting all conspire to obscure or conceal even the largest lines. Operating at the edge of visual perception's limits – trying to find a 1/2" line 200' away flying low into

## SCAN, SEE, AVOID!

*Pilots should always be scanning the flight path ahead for the hidden danger of power lines. Lines can be found anywhere, along a roadside, or dissecting the perfect cut hay field LZ. Flying at low level changes light angles and glare making lines more difficult to see. Learn to find the poles, even in what seems a "severe clear" wide open space, they are key to spotting otherwise unseen lines.*





## Find the poles, Draw the lines!

*Depending on your angle of approach, lines can often be all but invisible. If you see power poles, it's safest to assume they are connected by lines, even if you can't see them.*



the sun – makes a high-stakes task even more critical. Add a little haze and well, ya know. The illusion of clean airspace can prove deadly.

Expectation shapes perception, and how you think about lines determines where, how well, and how fast you see them. The 100' Rule states you should expect lines everywhere below 100' – until proven otherwise. Assume every road has lines... every treeline has lines... every building has lines... every body of water has lines... every field has lines... until proven otherwise. If that seems like pretty much everywhere, you're right. Now you're catching on!

You won't see lines themselves until it's too late, so a better strategy is looking for poles first. Poles are almost always vertical, often evenly spaced, usually uniform in color or aging, and run in corridors. Crossbars span and help define corridors, but spurs can run off any pole in any direction.

But finding poles doesn't mean you'll see its lines. Indicators like giant red orbs or a bird or two are more occasional than common or uniform. So once you find the poles, you must draw the lines visually yourself. Usually they'll reveal themselves with time, but assume they're there until proven otherwise.

A pilot has three options for safely avoiding lines. First, clear them high in level flight or positive climb. The most common option, this offers both good separation and peace of mind. Second, climb over them. Starting from launch or contour flying, this assumes a pilot sees them and has time, distance, and sufficient burner

power to clear them. Last, a pilot can "rip out" or simply choose not to cross the lines. Properly executed, any one of these will keep everyone safe.

Since the development of parachute tops, "ripping out" may come with some unintended meanings – an admission that the pilot failed to see lines in time or had no other choice. Pilots choose landing sites short of additional line crossings every day with good reason: no wind, light, time, need, or landing options after further crossing attempts. That's just solid precautionary decision-making with no slight to pilot or equipment. The wisdom holds even if the phrasing needs updating or rebranding.

### ACTIONABLE TO-DO's

Staying clear of lines demands your A-game on every flight. Any pilot can benefit from the following hands - and eyes - on techniques to widen their safety margins on their next flight:

- Note any lines in any portion of your launch, landing, or tether site. Check upwind, downwind, and crosswind.
- Launch downwind of lines when possible. Upwind, allow 100' per mph. 5mph, 500'. If your favorite site doesn't offer that, allow sufficient space and climb out strong.
- Use a tie-off and crew weight on - especially on windier days - to combat false lift.
- Encouraging passengers to point out lines both gives them an active task and provides pilot redundancy.
- When crossing lines, maintain

positive climb, level flight, or controlled descent by burning.

- Will it fit? Know your balloon's exact space needs for approach, landing, and stopping to avoid clipping or dragging into lines.

- Compare your balloon's response time for starting to climb or drop (see PILOT'S CHALLENGE inside When in Doubt, Rip It Out?). These insights shape your decision-making in any scenario.

- Down is not done. Use caution walking your balloon at landing and avoid backing into lines when staging to deflate.

- Expect weather changes when standing or deflating – be ready to manage these and deflate how and where intended.

- Recruit your crew for the cause – keep reading!

Command and authority are one thing, but safety is much bigger. A pilot can do all the right things and still get into trouble. Crew Resource Management (CRM) is an FAA philosophy-protocol that communication, situational awareness, decision-making, and teamwork optimize safety, that any flight team is far safer working together than working individually. Why involve crew? Simple – pilots are fallible and more eyes see more. Crew can multiply line strike prevention efforts starting with the following tips:

- Understand you're as critical – or more – to flight safety as your pilot at any given moment.

- Do flight path recon and gather intel your pilot simply can't get from the basket; lines are more often easily spotted from the ground.



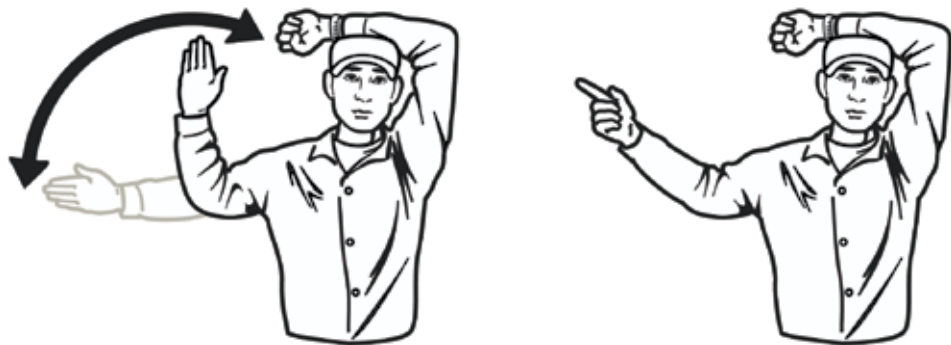
# What the Crew Can Do!

We know statistics show that the landing phase of flight is where we see the most accidents and power line contacts. We know power lines are the greatest danger facing the balloon and its occupants. We know the FARs require pilots to “see and avoid” obstacles to avoid accidents. We’ve discussed that pilots should scan their flight path and landing sites to be sure they are clear of lines. Most pilots will also instruct any passengers to also scan for and warn them of any lines they might see. So what is there for the crew to do?

If you can be at the landing site in advance of the balloon you can and should scan for any lines that could pose a hazard. Ideally a crew person can then radio the pilot, or better still, exit the chase vehicle with a portable radio and relay to the pilot the location of any potential line hazards. But what if radio communication isn’t possible?

Five years ago, at the urging of Mike Hance, the BFA adopted a universal hand signal to warn pilots of power lines in the area. If you’re in such a situation, very simply bend one arm over your head and with the other hand wave to get the pilot’s attention and point to the lines overhead. All balloon pilots and crew should make themselves aware of and familiar with this simple yet vital means of non-verbal warning. With this universally accepted hand signal, any crew member can effectively warn any pilot of a line hazard.

Another simple means of non-verbal communication to warn of power lines would be to park the chase vehicle next to a power pole and if possible, parallel to the direction of the lines. Doing so will help the pilot to spot the pole, and thus the lines.



•Obey the 100' Rule – watch for lines more closely any time your pilot flies below 100'.

•Always be on the lookout – expect lines at every road, treeline, building, body of water, and field (pretty much everywhere) until proven otherwise.

•Note surface wind speed and direction and radio your pilot of any discrepancies. An unexpected shift suddenly can make that not-even-close power line unavoidable.

Don't assume your pilot sees what you see - see something, say something! Confirm your pilot sees lines when flying low:

•Radio your pilot covertly “The road is hot” to send the message.

•Radio multiple line locations to avoid clearing the first and hitting the second.

•Baskets are loud busy places – broadcast and don't expect a reply. Re-broadcast if your message coincides with a burner blast.

•Parking your truck near a power pole sends your pilot a powerful nonverbal peripheral message about line locations.

•Know, practice, and use the universal power line signal when within visual line of sight of your basket.

•Never run a crown line, drop line, or tether line over or under any power line. Drop any one of these BEFORE it or any part of your balloon contacts any line.

Encourage and appreciate crew for speaking up when it comes to lines. Anyone can do it, and everyone must. If you consider this backseat flying, ask any line strike pilot if a quick heads up could've averted disaster – you know the answer. The number of pilots whose crew spotted lines they missed would amaze you. Multiply your safety advantage 2-5X with early warnings you need to prevent line strikes!



*The author would like to thank Emelia Bernava, commercial LTA pilot and FAAS Team member who single-handedly envisioned and coordinated the “Crossing the Line” WINGS program on which this article is based. We all owe her our thanks for making our safety her top priority and for creating this unique hands-on training tool which instantly went international upon its release.*

## When in Doubt, Rip it Out!



**B**orn in an era of underpowered can burners and one-shot Velcro tops, this adage guides pilots to land short rather than assume they could clear a line. But does it still apply with today's high-performance burners and envelopes? Hardware changes, but physics and wisdom don't.

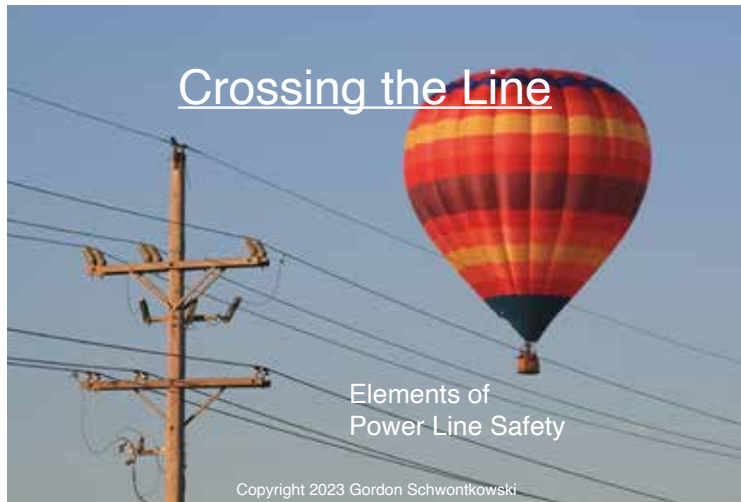
Do the math. It takes a pilot 3+ seconds to detect a risk, another 3+ to assess it and choose the best response, another 3+ to act, and another 10+ seconds for the balloon to respond. That's at least 20 seconds.

Many pilots confuse burning with lift, forgetting that lag time between adding heat and changing your balloon's 3+ton momentum and inertia. Contouring 10' below line level at 10mph, most moderately loaded balloons need 150' horizontally to climb 10'. Do you have the time and space? The idea was to land safely and never attempt a line crossing you weren't sure you could safely clear. That's still good advice today.

Takeaway: fly at least 30 seconds ahead of your current location for the time and space you need. Maybe updating that old adage to reflect present day realities might be in order:

Got the time, clear the line. When in doubt, rip it out.

## Crossing the Line



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### *Movie Night Can Save Your Life!*

*“Crossing the Line” is a 2023 FAA FAAS Team video release on line strike prevention written exclusively for LTA pilots and crew. It covers line strike awareness, prevention, and management in a short (23-minute), concise and easily understandable format and qualifies for WINGS credit as well. Early reviewers call this a safety must-see. Order some pizza, get your popcorn, gather your crew, and log on to <https://tinyurl.com/BalloonPowerLineSafety>*



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Shop for Officially Licensed Balloon Federation of America apparel at our online store. You'll find a wide variety of items in many styles and fabrics available a rainbow of colors and all sporting your choice of the BFA, HACD, Gas Division, or Team USA logos. Just log on to [https://stores.inksoft.com/PhelpsUSA\\_BFA\\_ballooning/shop/home](https://stores.inksoft.com/PhelpsUSA_BFA_ballooning/shop/home) for details. No minimum quantities and most orders ship within 15 business days.





# BFA

## Treasurer's Annual Report

### Year Ended December 31, 2022

**Submitted by Scott McClinton**

**E**very year the Treasurer of the BFA is required to prepare an annual report of the financial condition and results of our organization and I have read the report in *Ballooning* in the past, but I never knew the details of preparing it. I was elected Treasurer last year and immediately realized the tremendous responsibility of the position, and I would be remiss if I didn't thank Maury Sullivan for his many years serving as the BFA's Treasurer while he was a Director, and for two years after his term expired.

Prior to my election Mark West, Past President of the BFA, asked Linda Nelson if she would help the BFA with the Treasurer's responsibilities and Linda continues to lead our team in financial reporting for the BFA. I cannot thank Linda enough for her guidance and assistance to the BFA.

#### IN GENERAL

In general the BFA is financially stable due to our investment accounts and as the stock market stabilizes we should see positive returns again. The BFA continues to see some membership declines which impacts our operating revenue negatively, and in response the BFA Board elected to raise some membership dues to offset the decrease in member numbers. Our Divisions (Gas, HACD, and PRO) have rebounded and performed better in comparison to previous years with a significant contribution from the HACD.

In order to reference previous years here are some comparisons:

<u>Year</u>	<u>Membership</u>	<u>Primary Dues</u>	<u>Division Dues</u>	<u>Total Dues</u>
2018	2,052	\$86,286	\$16,587	\$102,873
2019	2,067	\$89,744	\$16,097	\$105,990
2020	2,019	\$89,744	\$11,142	\$93,078
2021	2,013	\$77,325	\$10,327	\$87,652
2022	1,921	\$78,385	\$14,602	\$92,987

In addition we have had a drop in advertising revenue in our publications over the past several years that contributed to the Federation's overall decrease in revenues.

#### OPERATION RESULTS

Unfortunately the Federation's expenses remained constant, or in a few circumstances increased slightly, while the revenues decreased in some areas. The following are the details of the major operations by function or program, and the Condensed Balance Sheet of the Federation for 2022 in comparison the two previous years:

<u>Major Program/Function Operations</u>	<u>Net Revenue (Expense)</u>		
	<u>2022</u>	<u>2021</u>	<u>2020</u>
Management & General	-\$81,868	-\$76,900	-\$67,500
Special Projects – Website Upgrade	-\$5,750	\$0	\$0
Membership Dues	\$73,385	\$75,800	\$80,600
Junior Ballooning	\$6,843	\$500	\$4,900



(Major Program/Function Operations	2022	2021	2020)
Net Publications	-\$49,881	-\$40,800	-\$36,000
Safety & Education	<sup>1</sup>	\$10,400	\$8,800
Programs & Awards	<sup>1</sup>	-\$3,200	-\$1,600
Product Sales	<sup>1</sup>	\$2,200	\$3,500
Gas Division	-\$208	\$800	\$1,100
HACD	\$9,144	\$10,700	\$800
Young Aeronauts	\$1,070	\$100	\$400
PRO Division	\$1,140	-\$1,000	-\$200
Increase (Decrease) from Operations	-\$46,125	-\$21,400	-\$5,200
Net Investment Activities <sup>2</sup>	-\$106,997	\$94,200	\$58,600
Net Revenue	-\$153,122	\$72,800	\$53,400

<sup>1</sup> Included in Management & General

<sup>2</sup> In 2022 Net Investment Activities include unrealized gains and investment account fees

### CONDENSED BALANCE SHEET, DECEMBER 31

	<u>2022</u>	<u>2021</u>	<u>2020</u>
<b>Assets</b>			
Current Assets			
Bank Accounts	\$25,080	\$22,000	\$30,700
Inventory	\$1,615	\$4,900	\$1,500
Total Current Assets	\$26,695	\$26,900	\$32,200
Investments	\$543,889	\$716,000	\$636,900
<b>Total Assets</b>	<b>\$570,584</b>	<b>\$742,900</b>	<b>\$669,100</b>
<b>Liabilities and Equity</b>			
<b>Liabilities</b>			
Current Liabilities			
Accounts Payable	\$0	\$200	\$600
Credit Cards	-\$9	\$700	\$900
Other Current Liabilities	\$2,155	\$1,600	\$1,600
Total Current Liabilities	\$2,146	\$2,500	\$3,100
Unearned Income	\$89,838	\$108,800	\$107,000
<b>Total Liabilities</b>	<b>\$91,984</b>	<b>\$111,300</b>	<b>\$110,100</b>
<b>Equity</b>			
Permanent Restricted-Domont	\$15,619	\$18,300	\$16,200
Donor Restricted Jr Ballooning	\$32,126	\$35,900	\$24,900
Board Designated Net Assets			
HACD	\$66,145	\$62,400	\$51,800
Gas Division	\$18,714	\$18,900	\$18,200
PRO Division	\$8,251	\$7,100	\$8,100
Unrestricted Net Assets	\$337,747	\$489,000	\$439,800
<b>Total Liabilities and Equity</b>	<b>\$570,584</b>	<b>\$742,900</b>	<b>\$669,100</b>

(continued on next page)

## INVESTMENTS

The investments of the BFA suffered as the market declines impacted the returns, as well as the needed cash withdrawn for continued operations. The returns for the benchmarks in 2022 were well below the previous years:

	2022	2021	2020
S & P	+1.38%	+26.9%	+16.3%
DJIA	-8.7%	+18.7%	+7.3%
Unrestricted & Tarter Legacy *	-29.7%		
Board Restricted (Divisions)	+5.0%		
Donor Restricted (Junior & Domont)	-12.0%		
Accumulated BFA Market Return	-24.0%		

\* Investment funds from the Unrestricted & Tarter Legacy accounts were used for continued operations.

The following is a fund value comparison for the past two years:

	12/31/2022	12/31/2021
Unrestricted & Tarter Legacy	\$403,034	\$573,407
Board Restricted (Divisions)	\$93,111	\$88,451
Donor Restricted (JR & Domont)	\$47,744	\$54,240
<b>Total Investments</b>	<b>\$543,889</b>	<b>\$716,098</b>

During the 4th quarter of 2022 the BFA Board chose to move our investment accounts to a new financial advisor in an effort to reverse the course of negative earnings and high investment fees. Our investment accounts are now held at Raymond James Financial Services and is being managed by Barlow Capital Advisors in Flower Mound, Texas.

## CONCLUSION

The BFA has many challenges facing the membership and the Board of Directors, and I speak for the Directors when I say this Board is addressing all of them. As a potential recession looms the BFA will continue to work to reduce costs and increase membership and revenue. In an effort to reduce costs in 2023 the Board has taken the following actions:

- Reduced expenses with the production of Ballooning
- Eliminated the President's Reception in Albuquerque
- Eliminated Director's travel stipends
- Reduced some insurance costs by reducing insured events (both flying and non-flying)

The Board continues to work on stabilizing membership loss and is looking for opportunities to attract new members. In addition we have a Board member concentrating on grants that may be available to the Federation.

BFA President Pat Cannon and other Board members have worked diligently with the FAA on a weekly basis on the 2nd Class Medical requirements, which has become quite a challenge for us as well as many pilots in the US. At the same time the BFA has monitored the UAV airspace proposal and has spent quite a bit of time working with the FAA and other aviation groups like the AOPA, to craft an appropriate response to the proposed changes. These have been time consuming tasks for the President and the Board.

During 2023 the BFA is holding 5 Youth Camps across the country and is on track to share ballooning with a record number of youths, and the camps are producing revenue to cover the costs of the campers attending.

Reversing a declining trend over the last few years the HACD had attracted over 55 pilots to the U.S. National Championships being hosted at the Great Texas Balloon Race in Longview, Texas. In addition the Great Texas Balloon Race is hosting the "Young Guns" competition highlighting competitive pilots under the age of 30.

There are many positive things happening in our sport but the challenges are also great, and the BFA will respond to the challenge. Our organization is only as strong as it's members and we need your support and participation.





# BFA Member Services Directory

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16927 NE Morrelli Dr., Yamhill, OR 97148

email: Ltakoh@frontier.com

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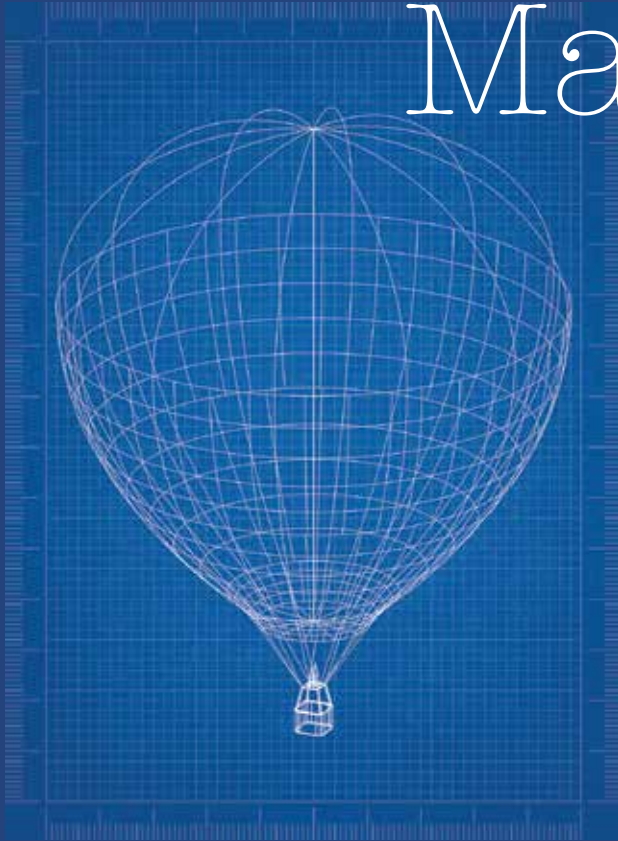
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# Maintenance and Repair



## A Guide to FAA Repairman Certification

by Phil Bryant

# The Dreaded Form 337



Obviously, the FAA regulates all inspections and repairs of all types of aircraft. This article is to guide you through the process of documenting major repairs and alterations to balloons. Major Repairs and Alterations are defined in FAR Part 43 Appendix A. There is hesitancy among the balloon repair stations to fill out a Form 337. This hesitation is not well-founded, and the repair station owners and operators should consider this paperwork to serve their best interests. Most FAA offices will faithfully follow the written guidance; however, you are advised to follow the instructions given by the inspectors at the local Flight Standards District Office (FSDO). The inspectors should be glad to assist you in filling out the forms.

The FAA Form 337 may be completed on paper or via the electronic form [https://www.faa.gov/documentLibrary/media/Form/Form\\_337.pdf](https://www.faa.gov/documentLibrary/media/Form/Form_337.pdf), or you may contact your FSDO for questions or guidance. The instructions for filling out the FAA Form 337 are written and available online. It is simple to do.

Please follow the instructions from [https://www.faa.gov/regulations\\_policies/advisory\\_circulars/index.cfm/go/document/information/documentID/1036848](https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document/information/documentID/1036848).

A summary regarding items 1 and 2 on the 337 will be filled out entirely by you as it only identifies information for reference



and filing. Please leave item 3 for the FAA to fill out. The FAA has three options to determine if the repairs and alterations comply with the applicable airworthiness requirements. The FAA Inspector will record the determination of airworthiness in this space in three ways. The approval of data may be made by examination only; secondly, when a physical inspection, demonstration, or other aircraft tests are satisfactorily performed, and an installation approval is completed. Lastly, if a Designated Airworthiness Representative finds the work meets all the original certification requirements for the subject balloon.

The text above is only a summary of the FAA regulations and is not intended to be instructional, only informative. To be better guided, follow the Instructions for Completing FAA Form 337 (AC43.9-1G). A copy of this document is available from the second link above.

Item 4. Type. Repair or Alteration, check which applies. Did you repair the aircraft (return it to its original working state), or alter it by changing a component.

Item 5. Unit Identification. Again, leave the box blank if the item does not exist on a balloon, such as a powerplant or a propeller. Since the balloon is considered an airframe, you will want to check the Airframe box.

Item 6. I will assume, due to the intended audience, you will fill in the CRS name and address and check the box. Item 6D states that the item altered or repaired is described on the back of this form or attached pieces of paper. Since balloons do not fit neatly in a check box for an airplane, this is where you will do most of the repair or alteration documentation. Have the responsible person in the Repair Station certify that the repair and alteration described on this form have been made following the requirements of Part 43 of the US FAA regulations and that the information furnished is true and correct as far as you know. Wait to date or sign Form 337 until after it is approved by the FAA. Once the approval is given, you may then date and sign.

Item 7. This is for the Approval for Return to Service by the concurring authority prescribed by the Administrator of the FAA. Approval depends on the extent and context of the alteration or repair and who is authorized to determine airworthiness. The three field approvals above are 1) Approval by Examination

US Department of Transportation Federal Aviation Administration		MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller, or Appliance)		OMB No. 2125-3020 Exp. 04/30/2013	Electronic Tracking Number
				For FAA Use Only	
INSTRUCTIONS: Print or type all entries. See Title 14 CFR §43.9, Part 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. §44701). Failure to report can result in a civil penalty for each such violation. (49 U.S.C. §46301(a))					
1. Aircraft		Nationality and Registration Mark		Serial No.	
Make		Model		Series	
2. Owner		Name (As shown on registration certificate)		Address (As shown on registration certificate)	
		Address		City	
		State		Country	
		Zip			
3. For FAA Use Only					
4. Type			5. Unit Identification		
Repair	Alteration	Unit	Make	Model	Serial No.
<input type="checkbox"/>	<input type="checkbox"/>	AIRFRAME		(As described in item 1 above)	
<input type="checkbox"/>	<input type="checkbox"/>	POWERPLANT			
<input type="checkbox"/>	<input type="checkbox"/>	PROPELLER			
<input type="checkbox"/>	<input type="checkbox"/>	APPLIANCE	Type		
		Manufacturer			
6. Conformity Statement					
A. Agency's Name and Address			B. Kind of Agency		
Name			U. S. Certificated Mechanic		Manufacturer
Address			Foreign Certificated Mechanic		C. Certificate No.
City			Certificated Repair Station		
State			Certificated Maintenance Organization		
Country					
D. I certify that the repair and/or alteration made to the unit(s) identified in item 5 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.					
Extended range fuel per 14 CFR Part 43 App. B		Signature/Date of Authorized Individual			
<input type="checkbox"/>					
7. Approval for Return to Service					
Pursuant to the authority given persons specified below, the unit identified in item 5 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is					
		<input type="checkbox"/> Approved		<input type="checkbox"/> Rejected	
BY	FAA Fit, Standards Inspector	Manufacturer	Maintenance Organization	Persons Approved by Canadian Department of Transport	
	FAA Designee	Repair Station	Inspection Authorization	Other (Specify)	
Certificate or Designation No.		Signature/Date of Authorized Individual			

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NOTICE
Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished
(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)
Nationality and Registration Mark _____ Date _____
<input type="checkbox"/> Additional Sheets Are Attached

FAA Form 337 (10/06)

of Data Only, 2) Approval by physical inspection demonstration, testing, etc., of the aircraft only, and 3) Approval by Examination of Data Only of Duplication on Identical Aircraft (Multiple field approval.), which for balloons does not apply.

Item 8, the back side. In simple terms you're asked to describe the repair or alteration performed. This is a real bugaboo for some but it should not be. Just remember the description should be in sufficient detail to permit a person unfamiliar with the work to understand what was done, and the methods and procedures used in doing it.

Diagrams and drawings may be included if required to adequately explain the location and details of the repair or alteration. Remember to check the box on the bottom of Block 8 if additional sheets are attached. If additional sheets are attached, identify them with the aircraft's registration (N-number), date the work was completed and (recommended) the aircraft's total time at time of work completion.

Working with the FAA on the required

approval, you will develop a dialogue where you may appear at the FSDO to receive the final signed 337. The inspectors may visit the repair station to sign or deliver the completed document.

What items might you want to file a Form 337? When repairing or rebuilding an envelope, any use of substitute fabric certainly warrants using a 337. Also, substituting any basket, tank(s), or burner not listed in the Manufacturer's Operations Manual for that make and model or balloon size as approved by the manufacturer. Making any change in the envelope's dimensions, altering the basket's structure, or changing any suspension line not provided by the manufacturer, using a 337 is strongly suggested. When you start venturing outside the product specifications, it is arguably easier to change the balloon to an Experimental Airworthiness classification, so you assume total liability for the integrity of the aircraft. This is done frequently. Experimental ballooning has a significant following, and the US has a community of builders unequal to anywhere else. There is a Facebook Group that you

may investigate for stories of this activity. It is exciting.

This is a short but essential subject. The 337 is something we can all avoid, but please do not do something that requires a 337 and not do the paperwork. It is simple to understand and do. I hope this article has increased your understanding and helped you be more professional in your work.



Accessing the presentation by the FAA on Form 337 may help you better understand how the FAA expects to see the form used and then how to process your document. You can view the presentation here on the BFA website...

[https://bfa.net/images/Repair%20Stations/Completion\\_and\\_Disposition\\_FAA\\_Form\\_337\\_and\\_Field\\_Approvals.pdf](https://bfa.net/images/Repair%20Stations/Completion_and_Disposition_FAA_Form_337_and_Field_Approvals.pdf)

**This is the hard Part, or at least it seems to be for SOME mechanics and repair stations**

**NOTICE**  
Weight and Balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

**8. Description of Work Accomplished**  
(If more space is required, attach additional sheets. Identify with nationality and registration mark and date work completed.)

Additional Sheets Are Attached





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*Patent  
5,503,526*

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## Trailer 101

**F**orget power lines – driving with trailers terrifies far more ground crew. It’s a must-have skill; count on being asked to move, back, or drive one at some point. You can quickly and safely learn these skills at home without the trauma of stopped traffic honking on your 7th attempted U-turn. Trailering psychology is far more daunting than technique, but you’re just one Ah-Hah! moment away from mastering both.

To be fair, learning to tow a trailer can be challenging. All trailers and tow vehicles aren’t created equal. A shorter wheelbase truck with a long trailer is forgiving and easy to learn on. The smaller the trailer, the faster the response, the quicker trouble can happen. Towing a 10’ trailer behind a 15-passenger van isn’t difficult...until you go to back it in a must-do situation. Whatever your vehicle combination, take it slow and learn under the guidance of a seasoned driver. (If an instructor is not available, other resources are available like YouTube videos and online How-To articles can help you get started.)

Safe trailering happens first in your head before on the road, but there’s no substitute for practice to develop or sharpen skill. Ideally, use the equipment you’ll be driving on a flight. Practicing on a small tractor with a yard cart first can speed your learning with far less risk. That said, you just have to start. You can learn this all by yourself; being self-taught means less pressure but you take all the risk. A mentor can explain, guide, and answer questions. Better yet, pre-wire your brain by riding shotgun with a trailer pro: watch their technique, ask them questions, and let them explain what they’re thinking as they drive.

### Before You Drive...

YOU are responsible when driving a vehicle with a trailer even if it’s not your truck, you didn’t hook it up, or your pilot loaded it. Learn all you can before your first drive, take the time to do things right, and check everything twice. Distribute weight 60% forward/40% behind a single axle; the same balance applies from the center of gravity between axles on a double-axle trailer. Know your trailer’s weight limits; overloading or improper balance makes truck handling a nightmare. Secure all contents to prevent shifting or bouncing.

Seat your trailer’s tongue firmly on the ball with a distinctive metallic “thunk.” A jump on the tongue may help before latching, locking, and pinning. Crank up the tongue jack ALL the way and re-position it if needed before driving. Cross the safety chains to form a “basket” which will catch the tongue if the hitch pops off the ball. A tongue hitting the ground at driving speeds spells all

kinds of trouble.

Connect your trailer’s lights and insure they work. Have a friend confirm each turn signal, brake, and hazards work. In the dark, reflection off a vertical surface (garage door, other vehicle, etc.) can work as well. If your trailer has trailer brakes, insure those are connected and adjusted as well. Do a quick walk-around to check everything before driving off – every time you hook up.

### On the Road...

Trailering is best learned at home and NOT during a flight. Practice without any time or performance pressure. Hit an empty parking lot to practice before you go downtown. Pavement markings give you targets, boundaries, and distance feedback. Notice how inside trailer tires track far sharper in turns. Start backing straight, then add wide turns.

Trailering adds extra layers of complexity – and sometimes stress – to driving. You’ll encounter most trailer-isms within your first dozen drives and a few hundred miles. The most important: remember you’re towing a trailer. It’s easy to forget. It changes everything. Think about it, maintain situational awareness, and factor it into all your decisions. Plan ahead so you can get out – forward, backing, turning – before driving into any scenario.

Remember a trailer adds length and weight behind your truck. Your longer total length will easily block intersections or driveways behind you. Don’t pull forward if you can’t clear these. Handling will also change. Accelerating and braking take longer. Your engine will downshift and even struggle climbing grades. Gas mileage will tank. A higher profile is more susceptible to wind and passing trucks. Check your mirrors more often. Beware of larger blind spots. Passing takes longer. Pavement, speed, and aerodynamics may create a “harmonic” shaking your entire truck at higher speeds. Take your foot off the gas, do NOT brake, and steer straight to make the shimmy go away.

How you read roads must change too. Go wide on turns as inside trailer tires may track several feet tighter. Beware of sharp grade changes like aprons, culverts, or railroad tracks. Whether up or down, each can bottom you out or hang you up. Cross them at an angle when possible.

### Backing...

OK, worst first: avoid jack-knifing. Jack-knifing is backing at so sharp an angle your trailer tongue flattens against your bumper and can damage both. Stop far short of this angle and you’ll be fine.

So here’s the big backing secret. Starting from a straight truck-trailer line, turn the truck wheels the opposite direction



of the desired trailer turn. Backing right means truck wheels start turning left. The truck goes the wrong way but starts the correct trailer motion. Go slow. When the trailer's at the desired angle, start correcting gradually with "normal" steering until you're backing where needed.

It may help to imagine your truck and trailer as two separate units hinged with the ball as a pivot point. Practice using mirrors until you get your coordination down; looking back may confuse you. Get comfortable backing straight, left, and right. Backing left first may be easier to see and process. Once you get your timing down, backing is as easy and natural as driving forward. Worst case, pull forward, straighten up and start again, as often as needed. Think of this maneuver like a "reboot."

Wanna sharpen or develop advanced skills? Practice with different vehicles. Mix and match assorted length trucks and trailers. Back in the dark. Look over your shoulder or use a back-up camera to augment mirrors – or both. Mastering single-motion 3-point turns comes next. An S-turn (pass a right-side driveway, steer right-left-right, then stop with trailer just past driveway) sets your trailer angle before you even shift into reverse. Then do it with a manual transmission. Practice to stay sharp.

Crew with trailering skills are unique, versatile, and highly valued. Knowing you can handle any driving situation creates a calm confidence and sense of achievement that's truly rewarding and almost indescribable. Determine to master the challenge rather than focus on frustration, and trailering will be second nature before long with a little practice.



*Backing 101: Turn your wheels opposite the desired turn to form an angle, but don't hold this too long as you start backing. Straighten front wheels and make small course corrections. That's it!*

#### BACKING TIPS

1. Scout the area as you drive up and check for obstacles. Get out to look if unsure.
2. Beware of grade changes which could hang up either truck or trailer.
3. Use your signal, hazard lights, or a spotter to tell traffic you're backing.
4. Adjust your mirrors and roll windows down before shifting into "R."
5. Focus, breathe, and relax. Go slow.
6. Set yourself up as best as you can. Making an S-turn can get you into a straight line or position.
7. Hold the steering wheel at the bottom. Use fluid feathering movements.
8. Make small continuous corrections and avoid over-correcting.
9. Be aware of and avoid jack-knifing.
10. Pull forward 3-5' or more to straighten up and reset as often as needed. Start fresh – don't try to save a bad approach.



#### USING A SPOTTER

A spotter may help when backing blind in unfamiliar areas, the dark, or around obstacles, but directions from a spotter can lead to confusion, frustration and shouting. Spotters work best when signaling distance, obstacles, or when to stop. Agree on tasks, terms, and signals before starting. Keep spotters in line of sight or view of mirrors for everyone's safety. Signal distance remaining by bringing hands together.

*Images used under Creative Commons license: <https://www.wikihow.com/Back-a-Trailer>*



*Photo courtesy Gary Brossett*

Do you have an outstanding photo of your favorite balloon, a memorable flight, or exciting festival? Send your contributions to:

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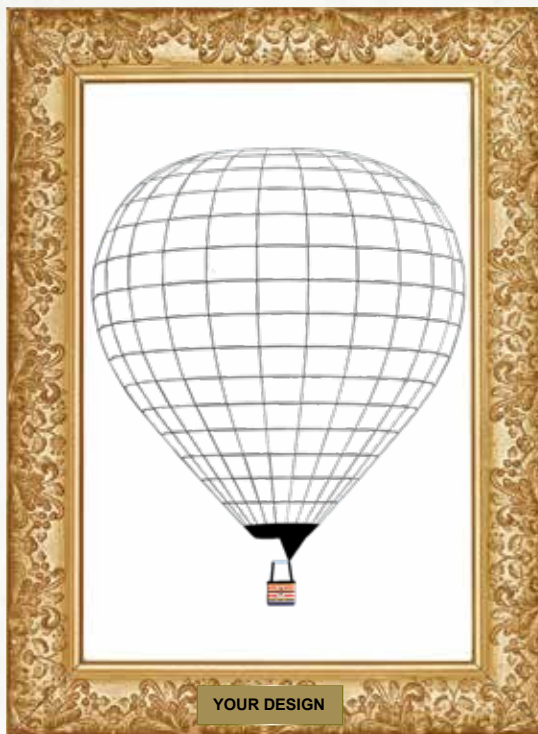
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