

The Quick Release

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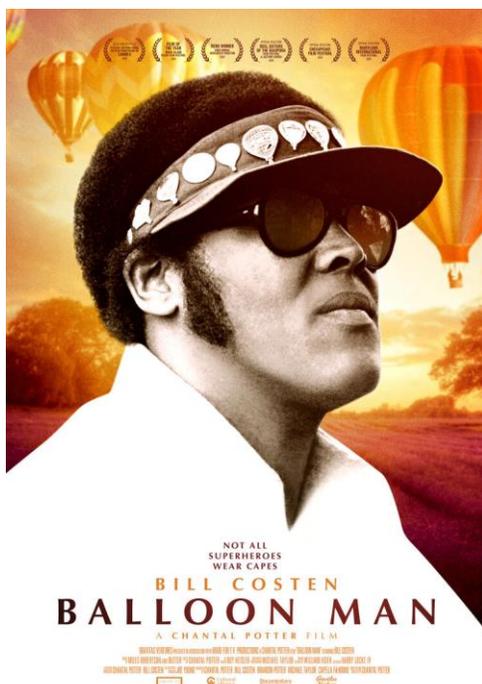
January 2021



Updated logbooks are here! 61-65H endorsements in the back have been updated. If you have a Red logbook the endorsements are still legal, if you have an older blue logbook the endorsements will need to be handwritten in the correct verbiage to take a checkride. The BFA will update and change colors as inventory runs out. For more information click here [FAA Airman Knowledge Testing Authorization Requirements Matrix](https://www.faa.gov/airman/airman_knowledge_testing/authorization_requirements_matrix) or <https://tinyurl.com/y4geo3ep>

To purchase please go to the BFA Store <https://tinyurl.com/y58wvsxs>

BALLOON MAN MOVIE



FEB 2 - BALLOON MAN PREMIERE WATCH PARTY Join the **BALLOON MAN** cast and crew for a meet & greet and documentary premiere celebration on Zoom! Following the watch party: head over to iTunes or your preferred streaming service to watch the film. Press play at 9pm EST and tweet with us using the hashtags [#BalloonManMovie](https://twitter.com/BalloonManMovie) and [#BeyondBalloonMan](https://twitter.com/BeyondBalloonMan). This virtual event will be hosted by the Hartford Alumnae Chapter, Delta Sigma Theta Sorority, Inc. **Register here:** <https://balloonmanwatchparty.eventbrite.com>
Pre-order BALLOON MAN on iTunes: <https://itunes.apple.com/us/movie/balloon-man/id1548089964>

Also see Facebook page: Balloon Man Movie

PLANNING FOR A LONG JUMP

By Dave Bair

Over the years, I have flown well over 1,000 passengers in balloons and one of the most common questions is, "What is the furthest you have ever flown in a balloon?" Even to the ballooning newbie, the allure of flying a long distance is strong, and I believe it gets stronger the more "normal" flights you execute. Flying a long jump is not particularly difficult with the right thought process in your planning.

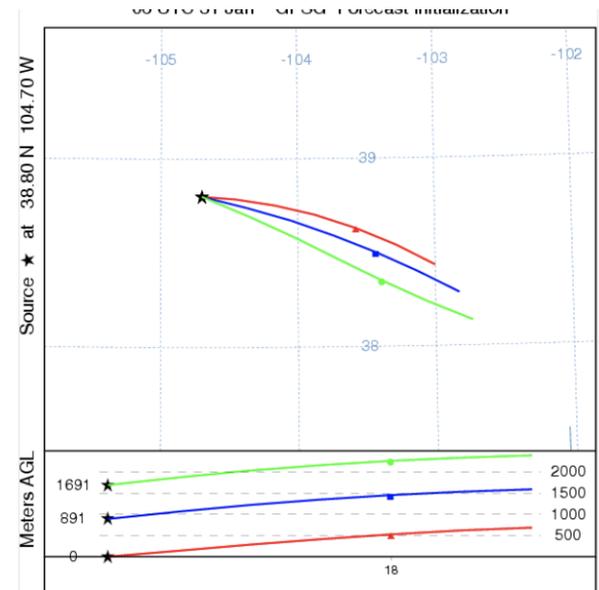
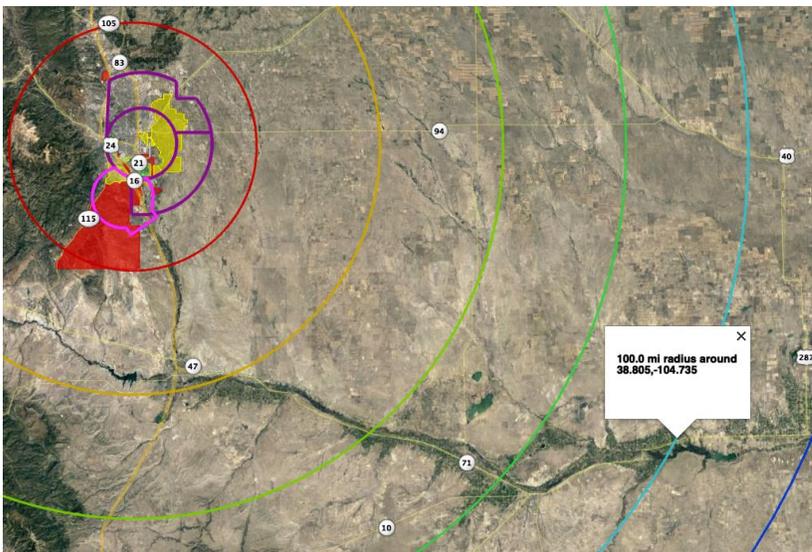
Set a Goal

We read in the BFA magazines and social media of flights that are hundreds of miles long and it can feel intimidating. In order to safely execute a longer-than-normal flight, you don't have to plan to go 500 miles at 17,999ft. I would recommend setting yourself a goal, so you have some boundaries on your weather, track, and equipment planning. For example, maybe the goal is 35 miles to qualify your crew for the BFA Crew Achievement awards, or maybe a certain town-to-town flight. For this discussion, let's set a goal of flying 100 miles without stopping.

Plan Your Track

If you are going to fly 100 miles, it is valuable to choose which 100 miles specifically. For example, what are the weather patterns that would get you that far? With that weather, are there good landing areas with access 100 miles away? If not, where would you have to start to make that true?

I can use a Colorado example. I wanted to fly 100 miles and still have good landing and retrieval options. I normally fly from Colorado Springs and I found that distances from my normal launch site put me in a lot of nowhere, except on a specific trajectory. As a result, that led me to consider moving my launch site North about 15 miles and waiting for a narrow band of direction in the upper-level winds so I could get to a landing area.



Running a trajectory on a regular basis gave me more confidence on what rough direction I could expect on a flight. With map in hand and the general winds forecasted for the area, I was then left with the question about whether my balloon would even take me 100 miles.



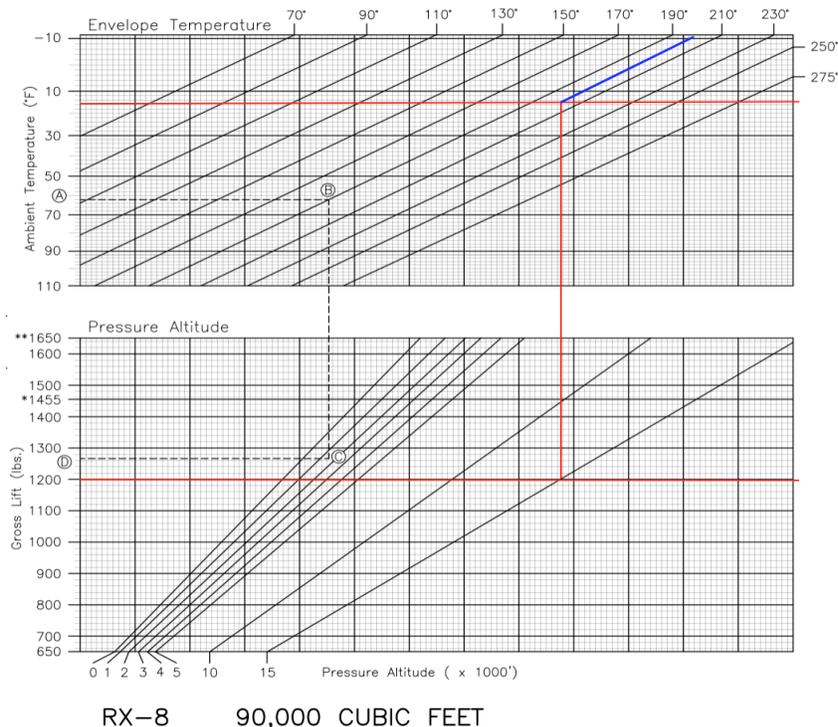
Grand Canyon Long Jump 2021
Photo credit: Tony Sandlin

Predict Your Performance

How will the balloon perform as we try to fly 100 miles? If you read your flight manual, there is little talk about mileage, or “miles per gallon” expectation for the balloon.

As a result, we have to back into that calculation...and it takes a lot of steps:

1. Goal distance is 100 miles
2. Trajectory planning suggests wind speeds at 14,000 - 16,000ft are 40-50kts
3. If we go 40kts, then we need to be at altitude for 2.5hours
4. There will be some fuel burn getting from the launch site at 7,000ft to 14,000ft, and some more for inflation, and some more for the descent and landing. This amount of fuel consumption is hard to estimate, but we can get close. For example, if we climb at 500fpm for 15 minutes, then we get to our desired altitude. The same can be used for a descent rate, so we can add about 30 minutes to the plan.
5. Add about 30 minutes into the fuel plan for reserves and calculation errors.
6. That means we (finally) have a time and altitude. Plan for flying about 3.5 hours at an altitude of 14k to 16k. Those are two of the variables needed to read a load chart.
7. Our next variable is ambient temperature. Given that I plan to do this flight in the winter, I can expect something like freezing temps on the ground and then 2°C per 1000ft, so about 14°C below freezing at altitude.
8. The last variable that allows us to use our load chart is system weight. My system (Cameron V-90) weighs about 700 pounds including 40 gallons of fuel and all my accessories (like radios, instruments, food, water, oxygen, etc.). If I fly solo, that adds another 200 pounds. If I need enough fuel to fly for 3.5 hours, then I probably need more fuel - insert another 15-gallon tank. All in, I am now running about 1100 - 1200 pounds total weight.
9. Working the load chart (I used an Aerostar RX-8 chart for example here), I see that I can fuel up a 90 with 55 gallons of fuel and fly solo at about 200-210°F at 15,000ft assuming an ambient temperature at altitude of 15°F. I took the most conservative estimates, and it appears that this balloon will out-perform my needs if my assumptions are correct, from a load perspective.
10. Only experience and tracking will reveal your fuel consumption rate as that depends on balloon porosity, burner efficiency, flying style, atmospheric conditions, etc. As a rule of thumb on a normal flight, I plan on 5 gallons per person per hour in stable flight. In this case, I added another “person” worth of fuel, so plan on 10 gallons per hour. Then, the performance at altitude is less than regular ground level, so bump that up a little and I get to the need for 55 gallons.



Prepare Your Logistics

So, you have your weather forecast, you have calculated your fuel and loading, and you have a big goal in mind. Flying a long jump brings a few extra challenges and moving parts to consider beyond just the flying part. Three big items come to mind for me: Survival, Time, and Tracking.

Survival after the flight might require some extra thinking for a long jump flight. I am not just talking about the potential for a windy landing 3-4 hours after sunrise. In addition, I am thinking about the idea that you might be sitting there for a while waiting on the crew, with no cell phone coverage. To this end, I would recommend bringing a first aid kit, lots of water, and some food to get you through the day in case you are there for a while.

Ballooning on a regular day takes time. We often tell our passengers to plan on a four or five-hour adventure even though the flight is only an hour. With a long jump, the flight could be three hours with a long drive home after that. I suggest planning on an all-day affair and probably getting home after the sun has set. Even though your flight is 100 miles, that probably doesn't mean the drive there was 1:40. It might take the crew a few hours to get to you and another few hours to get home. Don't introduce the stress of having an appointment at noon because you can normally make it on time.

Tracking the balloon and crew can be challenging for a long jump flight. It is more likely than normal that you and the crew will be outside of cell coverage, so those cool apps we all use won't work as well, and you can't call to check-in. A few strategies can reduce the anxiety here. First off, I recommend a good set of radios that are at least 5W of power for air-to-ground communication. Second, I recommend having a copy of the same atlas in the balloon and in the truck for easy reference. Imagine calling the crew and saying (or texting) I am on Page 37 in D4. That can get them very close to you with very limited data transmission. Third, I recommend setting up a "command center" phone number that people can call in and talk to a person and leave meaningful messages. This is better than voicemail messages because you might have hiked to the road and are calling in from a payphone and then the crew calls in an hour later from a gas station. In addition, if there is a real person in the command center, they can mobilize other resources as necessary such as a tow truck or an ambulance. In terms of pure tracking, I use a HAM Radio-based tracking mechanism called APRS. It is free to use but requires quite a bit of setup. It works great in the boonies, but probably not worth building if you plan to only do one long jump per year.

Tools to Consider

- Google Earth
 - GPS Visualizer - range rings
 - <https://www.gpsvisualizer.com/calculators>
 - Sectional Data
 - <http://www.gelib.com/aeronautical-charts-united-states.htm>
- HySplit
 - https://www.ready.noaa.gov/HYSPLIT_Tutorials.php
- NWS forecast by lat/long
 - <https://forecast.weather.gov/MapClick.php?lat=38.8632&lon=-104.76&unit=0&lg=english&FcstType=graphical>

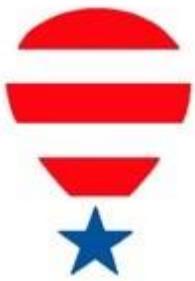
This article includes just a handful of thoughts on how to get started in the long jump adventure. My last suggestion would be to partner with a friend. Having another pilot working through these elements with you will contribute to both people learning more, and likely having more fun.

For BFA Long Jump Competition information click here <https://www.bfa.net/information/long-jump-competition>



Grand Canyon Long Jump 2021
Photo Credit: Andy Christophersen





WELCOME NEW BFA MEMBERS



David Kolb Monticello, IL
 Stacy Bargar Concord, MI
 Pete Hawkins Sebring, OH
 Rick Kellogg Tamarack, FL
 Ronald Souther Cutler Bay, FL
 Martha Pinney Richmond, VA
 Lauren Patton Denton, TX

John DiPierro
 Kyle Silk
 Douglas Shrman
 Nyssa Solano
 Chad Hebert
 Lynne Newton
 Joshua Auer

Ceresco, MI
 Cuyahoga Falls, OH
 Bethlehem, CT
 Tampa, FL
 Zachary, LA
 Albuquerque, NM
 Marietta, CA

A FAR Question

**Question: What altitude is the flight crew (pilot) required to have oxygen continuously?
 What altitude for more than 30 minutes?**

Hint: 91.211

(Look for answer in February 2021 issue)

For more information about Hypoxia please click here: [Hypoxia 3 panel Brochure V2 \(faa.gov\)](https://www.faa.gov/hypoxia-3-panel-brochure-v2)

LAST MONTHS QUIZ & ANSWER

Question: What does a steady green light from the ATC mean, with respect to the aircraft on the surface?

Answer: 91.125 Cleared for takeoff.



Grand Canyon Long Jump 2021
 Photo Credit: Daniel Liberti



Grand Canyon Long Jump 2021
 Photo Credit: Jonathon Wright



Please submit any upcoming events and seminars to bfaoffice@bfa.net it will appear on www.bfa.net as well as in the Quick Release and BFA social media.

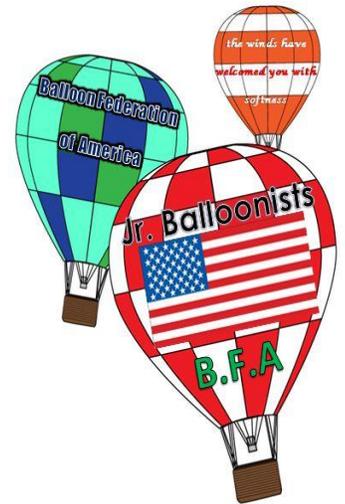
2021 BFA Youth Camps

High Sierra Balloon Camp – Reno, NV - June 20-25, 2021

Southeastern Balloon Camp - Gaffney, SC - June 22-27, 2021

Rio Grande Balloon Camp - Albuquerque, NM July 10-15, 2021

For more information: <https://bfa.net/bfa-summer-camps>



Crew Achievement Award Program

New 2021 Participants

Nicole Shane	1 Crew Level	Utah
Michael Shane	1 Crew Level	Utah
Dave Gremler	1 Crew Level	Utah

CAAP Level 1 does not require one to be a BFA member to achieve.

For more information in participating in the PAAP or the CAAP please go to: www.bfa.net under the education tab.



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